Graham North BSc, BEng

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Over 30 years of IT and engineering experience, operating as a senior independent consultant specialising in AI/ML platform engineering, cloud infrastructure, and DevOps across public and private sector organisations.

Currently delivering AI platform architecture and cloud infrastructure engineering on Azure and GCP, with recent engagements spanning defence analytics, financial services MLOps, embedded edge AI, and AI-assisted media production platforms.

Core AI/ML expertise covers the full model lifecycle: training pipeline design and orchestration, model quantization (ONNX Runtime, TensorRT), QLoRA fine-tuning, retrieval-augmented generation (RAG), vector search integration, inference optimisation for resource-constrained environments, and model drift detection with automated retraining triggers. Experienced with LLM integration (Gemini, Vertex AI, SageMaker), computer vision pipelines, NLP workloads, and federated learning infrastructure.

Infrastructure expertise spans Terraform, Bicep, and Ansible for infrastructure-as-code; Kubernetes, Docker, GKE, AKS, and EKS for container orchestration; and CI/CD automation across Azure DevOps, Cloud Build, Jenkins, and GitLab CI. Proficient across Azure, GCP, and AWS.

Consistent track record of unblocking stalled platform deliveries, resolving complex infrastructure and pipeline failures, and producing clear architecture documentation (HLD, LLD, ADR) for technical and senior stakeholder audiences.

COMMERCIAL EXPERIENCE

Platform Architect & AI Infrastructure Engineer (NESO, 12/2025 - 03/2026)

Skills: Azure, Terraform, Azure DevOps Pipelines, Azure Container Apps, Azure ML Workspace, Azure AI Foundry, APIM, Private Endpoints, NSG, VNet, Hub-and-Spoke Networking, Private DNS, RBAC, Azure Policy (SCF ESO), Key Vault, Cosmos DB, AI Search, Container Registry, Infrastructure-as-Code, Bash, Python, CI/CD, Git, ADO REST API, Managed Identity, Zero Trust, Architecture Design (HLD/LLD/ADR)

Engaged as platform architect and infrastructure engineer to unblock and accelerate the AI/ML platform delivery for the UK's National Energy System Operator, operating within a restricted enterprise landing zone with strict Azure Policy enforcement, private-only networking, and zero-trust security controls.
Diagnosed and resolved a stalled project landing zone deployment across four interconnected Azure DevOps repositories, tracing failures through terraform pipelines, ADO build logs, and Azure activity logs to identify root causes spanning RBAC, NSG, Azure

Policy, naming constraints, and resource provider registration gaps.
Designed and implemented the "One Config, One Button" onboarding automation, reducing project landing zone setup from 6 manually-edited files across 3 pipelines to a single config file with auto-discovery from Azure, generating all terraform configuration, pipeline variables, and onboarding manifests at runtime.
Used Claude Code to scaffold the initial Bash automation script from a description of the naming conventions and fallback logic, then iteratively extended it in-session to handle auto-incremented Key Vault names, managed identity principal ID lookups via Azure CLI, and ACA default domain resolution — avoiding the slow write-test-fix loop of manual shell scripting against live Azure resources.
Authored comprehensive architecture documentation including HLD, LLD, and ADR documents for ML workspace networking strategy, AI Foundry migration proposal, and NSG security hardening — all as formatted HTML with SVG network diagrams showing hub-spoke topology, subnet security, and traffic flows.
Used Claude Code to generate the initial SVG diagram scaffolding from a natural-language description of the hub-spoke topology, then iterated the diagrams in-session to add subnet CIDR labels, NSG rule annotations, and traffic flow arrows — compressing what would have been a full day of manual SVG authoring into under two hours.
Implemented explicit deny-all NSG rules (priority 4000) across all project subnets per the AIML Network Design specification, with a configurable allow-rules variable in the networking terraform module enabling per-subnet security policies at priorities 1000-3000.
Resolved Azure ML Workspace failures across 8+ pipeline iterations, identifying cascading issues: compute instance provisioning blocked by SCF ESO Azure Policy, storage inaccessible due to disabled managed VNet, serverless compute incompatible with private endpoints, and RBAC grants exceeding pipeline service principal permissions.
Used Claude Code to analyse ADO build logs and Azure activity log JSON exports in bulk, cross-referencing error codes against terraform state to identify root cause chains — a diagnosis task that would have required hours of manual log trawling completed in a single session.
Proposed and documented the migration from Azure ML Workspace to Azure AI Foundry, based on analysis of the existing working implementation in the platform team's infrastructure repository, eliminating the need for dedicated ML subnets, compute instances, and complex NSG rules while providing built-in notebooks and model access through the shared services private endpoint infrastructure.
Built auto-incrementing Key Vault naming to handle soft-delete conflicts, resource provider auto-registration for new subscriptions, Cosmos DB dependency fixes, ACA managed infrastructure resource group conflict resolution, and container app port alignment across Dockerfile, application code, and terraform configuration.
Developed parameterised build-and-deploy pipelines supporting both backend and frontend container app deployments, with compile-time service connection resolution for cross-project ADO pipeline execution.
Created utility pipelines for infrastructure operations including ML compute deletion, container app cleanup, and orphan resource management, enabling the team to recover from failed deployments without manual Azure portal intervention.
Operated across four Azure DevOps repositories (project generic template, ADA project, ADA onboarding, shared services) and two ADO organisations, maintaining consistency of terraform modules, NSG rules, RBAC assignments, and pipeline patterns across all codebases while managing separate service connections, subscriptions, and branch strategies.

Cloud Platform Engineer & AI Integration Architect (Fremantle / Arrow Media, 01/2026 - 02/2026)

Skills: GCP (Cloud Run, Cloud Build, Firestore, Cloud Storage, Vertex AI), Next.js, React, TypeScript, Python, Flask, Docker, CI/CD, Supabase, Firebase Auth, Gemini 2.0 Flash, Infrastructure as Code, Microservices, AI Compliance (Fremantle Asset Fingerprinting), REST API, Git/GitHub, Agile

Leading the cloud migration and AI platform engineering for Arrow Media's AiM Documentary Studio, a production tool used across three documentary series (NASA Files, Abandoned, Superstructures) for AI-assisted programme development.

Architected and deployed a dual-service infrastructure on GCP Cloud Run, comprising a React/TypeScript SPA frontend and Flask/Python backend, with automated CI/CD via Cloud Build triggers on GitHub.
Migrated the Channel Changers design agent platform from Vercel/Supabase/Gemini API to GCP Cloud Run/Vertex AI, implementing a centralised AI client factory pattern supporting both API key and Vertex AI authentication modes across 103 source files.
Used Claude Code to perform the bulk refactor: given the old and new SDK initialisation patterns, it identified all 103 affected files, generated the unified factory abstraction, and applied the replacement across the codebase in a single pass — eliminating 390 lines of duplicated SDK instantiation and preserving model fallback logic that would have taken several days to migrate manually.
Designed and implemented AI asset fingerprinting for Fremantle compliance, categorizing all AI-generated content as pure_archive, ai_generated, or ai_manipulated with full provenance chains including source references, prompts, models, and lineage data.
Built a provider abstraction layer enabling seamless switching between Supabase and GCS storage backends, with dual-mode authentication supporting both Firebase and Supabase auth via middleware configuration.
Engineered archive footage ingest pipelines parsing Avid/Quickture output into structured clip entries following Arrow Media's strict naming conventions (Series_ClipNumber_SourceType_Supplier_Description_Rights).
Implemented Vertex AI (Gemini 2.0 Flash) integration for documentary research, script generation, and AI-powered image generation within the design agent, with automatic fallback handling between primary and secondary models.
Resolved complex Next.js deployment challenges including build-time environment variable inlining for Docker, module-level SDK initialization failures, and Supabase REST API key format compatibility issues.
Delivered a security audit and migration plan documenting 60+ API endpoints, backend integration gaps, and Firestore schema requirements for ongoing database migration from Supabase.
Cloud platform is GCP (Cloud Run, us-central1).
Source code is retained in GitHub (grahamatarrowmedia organisation).
CI/CD is Cloud Build with automated triggers on main branch.
AI services use Vertex AI with Application Default Credentials.

Senior DevOps & Platform AI/ML Engineer (Linaro, 01/2025 - 11/2025)

Skills: Embedded AI Ops, Edge MLOps, CI/CD, Infrastructure-as-Code (Terraform, Ansible), Kubernetes, Docker, Secure Boot, Yocto, GitOps, ML Model Quantization, TensorRT, ARM Cortex-A, Linux Kernel, Pre-Silicon DevOps, Inference Optimization, Model Compression

Led development of an AI-optimized embedded Linux platform for next-generation ARM SoCs, enabling on-device inference and telemetry processing under tight power and memory constraints.
Built reproducible edge-AI pipelines integrating TensorFlow Lite and PyTorch Mobile models into Yocto-based firmware images.
Automated model packaging and OTA deployment workflows through GitOps-driven CI/CD pipelines, ensuring versioned, traceable rollouts of ML models and firmware updates.
Implemented hardware-aware model quantization using ONNX Runtime and TensorRT, achieving >40% inference-latency reduction on resource-limited MRAM/NOR XIP environments.
Designed secure MLOps runtime with encrypted artifact storage, model integrity verification, and signed container builds in accordance with SDL and FIPS 140-2 requirements.
Integrated AI telemetry and real-time inference metrics via Prometheus and Fluentd to support continuous retraining feedback loops for federated learning initiatives.
Collaborated with data science teams to standardize edge-deployment toolchains across silicon vendors, creating reusable IaC templates for embedded AI workloads.

Platform Engineer - GCP Cloud Infrastructure & AI Integration (JP Morgan Chase, 07/2024 - 01/2025)

Skills: GCP, Vertex AI, BigQuery, TensorFlow, Kubeflow Pipelines, Dataflow, Pub/Sub, Terraform, Kubernetes (GKE), Docker, Python, Pandas, Cloud Build, CI/CD, Data Governance, IAM, Cloud KMS, Security Hub

Architected and deployed enterprise-grade MLOps infrastructure on GCP to accelerate the banks use of generative AI and predictive analytics across trading, fraud-detection, and risk-management divisions.
Designed and codified Vertex AI pipelines for model training, tuning, and deployment, with IaC via Terraform to ensure auditable and compliant provisioning.
Built automated data ingestion and feature-engineering pipelines using Cloud Dataflow and BigQuery ML to feed models in near real-time from regulated financial datasets.
Implemented Kubeflow Pipelines on GKE for scalable multi-model experimentation, enabling data scientists to iterate rapidly while maintaining consistent DevOps governance.
Deployed model-serving microservices on GKE with GPU-based autoscaling and integrated monitoring via Cloud Monitoring and Prometheus.
Collaborated with InfoSec to implement zero-trust AI model governance, applying Cloud KMS-backed encryption and IAM-based isolation for ML assets.
Created CI/CD pipelines for ML training code using Cloud Build and GitHub Actions, including automated validation, bias testing, and model-registry integration.
Supported internal adoption of LLM APIs and retrieval-augmented generation (RAG) workflows using Vertex AI Search and BigQuery vector search, optimizing enterprise document intelligence solutions.

SC Cleared Platform AI Engineer (MBDA, 12/2023 - 07/2024)

Skills: AWS, SageMaker, EKS, Lambda, Glue, Kinesis, S3, RDS, Comprehend, Rekognition, Lex, Terraform, CloudFormation, Python, PyTorch, Docker, Kubernetes, CI/CD, Jenkins, CloudWatch, Prometheus, Grafana, Security Hub, GuardDuty

Delivered a secure, SC-cleared AI/ML platform on AWS supporting defense analytics, sensor fusion, and mission-planning systems.
Designed and automated SageMaker training and deployment pipelines using Terraform and CloudFormation, supporting both batch inference and real-time model serving.
Orchestrated containerized inference services on EKS for NLP (Comprehend, Lex) and computer-vision (Rekognition) models, integrated via Lambda and API Gateway for multi-tenant consumption.
Implemented ETL pipelines in AWS Glue to process terabytes of telemetry and imagery, transforming data into feature stores consumed by ML models.
Engineered real-time event-driven inference with Kinesis and Lambda for sensor-stream classification and anomaly detection.
Integrated MLOps governance, including automated lineage tracking, model drift detection, and retraining triggers using CloudWatch and EventBridge.
Enhanced DevSecOps posture via AWS Security Hub, GuardDuty, and KMS, ensuring full compliance with NCSC AI security principles.
Supported integration of AI workloads with mission-critical applications via encrypted API interfaces and CI/CD workflows built with Jenkins and CodePipeline.
Collaborated with data scientists to containerize PyTorch and TensorFlow models for deployment into classified environments with minimal human touchpoints.

SC Cleared DevOps Engineer(HMRC 2/23 - 8/23)

Skills: Microservices, Continuous Integration/Deployment (CI/CD), POC, ITIL, RDBMS, IAC, PAC, COTS, SLA, Docker, Kubernetes, ELK, Ansible, Jenkins, Terraform, AWS (VPC/EC2/ RDS/EKS/Fargate), GitLab, Git, Jira, Confluence, Scrum/Agile

This contract is working with HMRC to support the developers producing solutions.
This role required current SC clearance.
Supported developers in creating solutions for HMRC, ensuring adherence to security protocols and standards by maintaining current SC clearance.
Managed support tickets in Jira and ServiceNow, resolving issues promptly and efficiently to minimize downtime and maintain platform stability.
Repaired deployment problems and provided continuous support to the HMRC platform on both Amazon Web Services (AWS) and Microsoft Azure cloud infrastructures.
Utilized GitLab for version control, managing source code repositories and ensuring code integrity and collaboration among team members.
Collaborated with cross-functional teams in an Agile/Scrum environment, utilizing Jira for project management and Confluence for documentation purposes.
Implemented and optimized Microservices architecture, enabling modular and scalable solutions for the HMRC platform.
Implemented Continuous Integration/Continuous Deployment (CI/CD) pipelines using Jenkins, ensuring automated testing and seamless code deployments.
Orchestrated containerization and orchestration using Docker and Kubernetes, enhancing scalability and resource utilization.
Utilized Ansible for configuration management and automation, ensuring consistent and reproducible deployments across environments.
Implemented Infrastructure as Code (IAC) using Terraform, allowing for version-controlled, repeatable infrastructure deployments.
Managed both AWS and Azure resources, optimizing the platform for performance and cost.
Implemented ELK (Elasticsearch, Logstash, Kibana) stack for log management and analysis, ensuring real-time monitoring and issue resolution.
Collaborated with the Scrum team, utilizing Agile methodologies to enhance collaboration, transparency, and adaptability in project execution. Working on support tickets in Jira and ServiceNow.
Repairing problems in deployments and supporting the HMRC platform.

Cloud Technical Architect/Engineer (DWP 06/22 - 2/23)

Skills: AWS (Lambda, S3, EKS, Fargate, Docker), Terraform, Scripting, Python, Java, Microservices, Continuous Integration/Deployment (CI/CD), POC, IAC, PAC, SLA, Docker, Jira, Git, Scrum/Agile

Designed a new AWS environment based on the existing on-premises setup for the Department of Work and Pensions, focusing on a bespoke secure upload service with advanced post-processing of data.
Conducted in-depth analysis of client requirements and translated them into detailed High-Level Design (HLD) documents, outlining the system architecture, components, and interactions.
Led the technical deployment and provided ongoing support, leveraging strong client relationships developed during the design phase.
Designed and deployed microservices using AWS EC2, Lambda, EKS, and Fargate, ensuring seamless integration and scalability.
Implemented Kubernetes cloud deployment technology and container networking using Docker, optimizing system performance and resource utilization.
Developed and implemented data queries using REST API (Get, Post, Put, Delete) and handled diverse data structures in JSON, XML, YAML, XPATH, and JSONpath.
Integrated Postgres and Oracle databases, ensuring data integrity and seamless transactions.
Utilized GitLab for version control, ensuring collaboration, code integrity, and version tracking.
Provided customer documentation via Confluence and MS SharePoint, ensuring clarity and accessibility of system documentation.
Managed the Scrum team, employing Agile development methodologies and Jira for work breakdown and delivery tracking.

Cloud Architect/Engineer (AccessPay 01/22 - 06/22)

Skills: GCP, Azure, AzureDevOps, Rackspace, Terraform, Scripting, Python, OKR, Micro-services, Continuous Integration/Deployment (CI/CD), POC, IAC, PAC, SLA, Docker, Jira, ClickUp, Git, Scrum/Agile

Led the migration of AccessPay from physical infrastructure on Rackspace to cloud environments on GCP and Azure, ensuring a seamless transition of data processing for Credit/Debit card transactions for financial clients.
Collaborated with clients to understand business needs, documented requirements, and developed comprehensive High-Level Design (HLD) and Low-Level Design (LLD) documents, ensuring alignment with client expectations.
Implemented Dynatrace, Azure Application Insights, and Log Analytics for robust application performance monitoring, ensuring optimal performance and identifying areas for improvement.
Developed pipelines for server deployment and backups, optimizing resource utilization and ensuring data security.
Created full architecture design descriptions, effectively communicating complex technical concepts to the company's board and stakeholders.
Utilized AzureDevOps for code management and deployment, implementing Continuous Integration/Deployment (CI/CD) processes for efficient and automated workflows.
Implemented task organization and management using Jira and ClickUp, ensuring transparency and collaboration within the team.
Collaborated with cross-functional teams in an Agile/Scrum environment, ensuring alignment between technical implementations and business goals.

Cloud/SRE Architect/Engineer (Bought by many 09/21 - 01/22)

Skills: AWS (Amazon Web Services), CodeBuild, CodeDeploy, CodePipeline, Lambda, NodeJS, Javascript, TypeScript, Python, OKR, Microservices, Continuous Integration/ Deployment (CI/CD), POC, IAC, PAC, SLA, Docker, Terraform, CloudFormation, Git, Scrum/ Agile

Bought By Many are a pet insurance provider.
My role was to adapt the systems inherited by the team to add automation.
Also to support other teams' issues and advise.
Played a role in collaborative analysis sessions with other architects and engineers, contributing to the creation and refinement of comprehensive High-Level Design (HLD), Low-Level Design (LLD), and Requirements documents.
I was working in CI/CD deployments which used CodeBuild/CodeDeploy/CodePipeline and heavy use of Lambdas + CloudFormation.
Languages: NodeJS, Javascript, TypeScript, Python, Bash, C++.
Tools: Netlify, Halo, Heroku, AWS CDK.
Cloud platform was AWS.
Source code was retained in GitHub.
Issue tracker was Halo.
Customer documentation was provided in ClickUp.
Scrum team was managed using ClickUp.

Cloud Architect/Engineer (PredictX 06/21 - 09/21)

Skills: GCP (Google Cloud Platform), CloudBuild, OKR, KPI, BDD, TDD, SDLC, Microservices, Continuous Integration/Deployment (CI/CD), POC, ITIL, RDBMS, IAC, PAC, COTS, SLA, Docker, Selenium, Cucumber, Python, Terraform, Git, Scrum/Agile

PredictX use big data solutions to help large organisations with reducing their expenses.
Designed GCP environment for them.
Actively participated in analyzing client requirements and collaborated with architects and engineers to adapt High-Level Design (HLD), Low-Level Design (LLD), and Requirements

documents.
Provided ongoing technical guidance to ensure smooth project execution, emphasizing teamwork and communication among architects and engineers.
Helped them deploy their on-prem solution into GCP.
Engineered deployment pipelines and IAC solutions for the CI/CD deployments.
Educated them in how to use cloud and GCP services.
Also was business analyst for the solution and scrum master for the team when required.
Cloud platform was GCP.
Source code was retained in BitBucket, GitWeb and GCP Source.
Customer documentation was provided in Confluence and Google Docs.
Scrum team was managed using Jira.

SC Cleared Cloud Architect/Engineer(HMRC 09/20 - 05/21)

Skills: Global Transformation, Stakeholder Management, KPI, SDLC, Roadmaps, BDD, TDD, Agile, Microservices, Continuous Integration/Deployment (CI/CD), POC, ITIL, RDBMS, IAC, PAC, COTS, SLA, Docker, Kubernetes, ELK, MySQL, Oracle, Hadoop, Apache, Java, Ansible, Jenkins, Terraform, AWS (VPC/EC2/RDS), GitLab, Git, Jira, BitBucket, Confluence, Scrum/ Agile

This contract is working with HMRC to help them automate their deployment processes for their customs VAT systems.
This role required current SC clearance.
Designed and delivered CI/CD pipelines in Jenkins and GitLab CI.
Working with HMRC stakeholders and architects to understand/implement requirements which aligned with design documents, and update HLD and LLD as necessary.
Organise, manage collaborative coding workshops and work alongside engineers to code up solutions.
Cloud platform was Amazon (AWS).
Source code was retained in GitLab/BitBucket.
Customer documentation was provided in Confluence.
Scrum team was managed using Jira/Trello.

Cloud Architect and Engineering Manager (Nord Anglia Education 02/20 - 08/20)

Skills: Stakeholder Management, Man Management, OKR, SDLC, Roadmaps, HLD, LLD, BDD, TDD, Agile, Microservices, POC, ITIL, Paas, IaaS, SIAM, IAM, COTS, MFA, RBAC, SLA, Azure, Continuous Integration/Deployment (CI/CD), Terraform, Chef, Scripting, Docker, GitLab/GitHub Enterprise, Confluence, Scrum, Kanban

ViewDeck are a consultancy working with Nord Anglia Education on a global transformation project.
My role was to design the delivery automation and manage the remote teams to delivery the product.
Conduct in-depth analysis of client requirements.
Created and updated comprehensive High-Level Design (HLD), Low-Level Design (LLD), and Requirements documents, ensuring clarity and alignment with client expectations.
Provide technical guidance throughout the project lifecycle, ensuring that the implemented solutions adhere to the documented designs and requirements.
Mentor and guide development teams, fostering a culture of collaboration, continuous learning, and innovation.
Designed and delivered a deployment POC pipeline on Azure using GitHub, Azure DevOps, Terraform and Docker.
Managed an international team (Brazil, UK, China: around 20 engineers) to code and test the product.
Although the target platform was Azure, the customer required the design to be portable and cross platform, so this was also designed in to the pipeline and product.
Cloud platform was Azure.

Source code was retained in GitHub.
Customer documentation was provided in Confluence.
Scrum team was managed using Azure Boards.

Cloud Technologies Coach/Mentor (NetLinux 10/19 - 02/20)

Skills: Man Management, OKR, SDLC, Roadmaps, BDD, TDD, Agile, Microservices, POC, Paas, IaaS, COTS, Google Cloud (GCP), Continuous Integration/Deployment (CI/CD), Scripting, Docker, GitHub

NetLinux are providing training for young people who are learning cloud technologies
Provided ongoing technical guidance to ensure smooth project execution, emphasizing teamwork and communication among architects and engineers.
Mentored junior architects and development teams, encouraging them to collaborate and share knowledge.
My role was to create a training program and coach the individuals with a goal to create a web service on GCP.
Training was entirely remote using Slack.
Cloud platform was Google Cloud (GCP).
Source code was retained in GitHub.
Team was managed using Jira.

Cloud Architect and SecOps (Vodafone 07/19 - 10/19)

Skills: Stakeholder Management, KPI, SDLC, Roadmaps, HLD, LLD, BDD, TDD, Agile, Microservices, POC, ITIL, RDBMS, Paas, IaaS, SIAM, IAM, COTS, REST, MFA, SSO, RBAC, ABAC, SLA, Google cloud (GCP), GoCD, Jenkins (Java/JVM), Continuous Integration/ Deployment (CI/CD), Terraform, Chef, Kubernetes (GKE), Scripting, Docker, GitLab/GitHub Enterprise, Python, Ruby, Javascript, Jira, Confluence, Scrum, Kanban

Vodafone are providing a demographic information platform as a Big Data cloud offering to help clients with doing this while still protecting data (GDPR).
My role was to bring their new customers into the system using well defined processes maintaining the security and protection of the service.
This involved adding customers to GCP IAM and including the customer environment with the security perimeter (VPCSC) using GoCD pipelines written mainly in terraform and python.
This also included creating business processes working with the leadership and architects to provide full accountability for auditing.
After I fully established the processed, I designed a suite of applications which the customer would be using for their management of the platform.
This was written in Ruby (middleware) and JavaScript (frontend), interfacing using GitHub API and GCP API, Blue/Green deployed using GoCD onto GCP.
This included designing the application stack and deployment pipelines, and organising the team as scrum master to roll this out and support the customer in the use of the products.
Vodafone were deploying on GCP using Jenkins (Java/JVM) and GoCD.
SCM was Git (GitHub Enterprise), management was Jira (Kanban and Scrum), documentation was in Confluence.

Principle DevOps Engineer/Cloud Architect (Lloyds Banking Group 11/18-07/19)

Skills: Global Transformation, Stakeholder Management, KPI, Data Modelling, SDLC, DDD, Roadmaps, HLD, LLD, BDD, TDD, Agile, Microservices, API Gateways, CI/CD, POC, ITIL, RDBMS, Paas, IaaS, SIEM, SIAM, IAM, COTS, SOAP, REST, MFA, SSO, RBAC, SLA, Azure, Google cloud (GCP), Kubernetes (GKE, AKS), Continuous Integration/Deployment, Terraform, Ansible, Scripting, Chef, Docker, Splunk, Git/GitHub Enterprise, Nginx, Python,

Javascript, NodeJS, Jira, Confluence, Scrum, Kanban

Lloyds Bank Group (LBG) are moving to a Open Banking platform.
I was required to support their developers deploy this new strategy for public consumption.
Later I was also cloud architect and principle devops engineer on the banks new cloud strategy on Microsoft Azure and Google Cloud (GCP).
Designed the cloud architecture for environment, creating High-Level Design (HLD) and Low-Level Design (LLD) documents outlining system components and technical specifications.
Conducted requirements analysis sessions, capturing client needs and updating design documents iteratively to reflect changing project scopes and objectives.
This involved designing and deploying Kubernetes clusters in AKS (Azure) and GKE (Google) and using the Azure DevOps and Google APIs.
This included standing up many services associated with building, scanning, verifying and deploying the development output.
Tools included: GitLab CI, Jenkins (Java/JVM), Sonar, Selenium, Nexus, (Go)Harbor, Urban Code Deploy and Veracode.
Lloyds are currently deploying on IBM Bluemix (SoftLayer) and using Cloud Foundry PaaS.
Source control was Gerrit, GitHub Enterprise and Gitlab.
Team Management was Jira.
Documentation was Confluence.

DevOps Engineer/Architect (Campus Society / Connectt 07/18-10/18)

Skills: Global Transformation, Stakeholder Management, KPI, Data Modelling, SDLC, DDD, Roadmaps, HLD, LLD, BDD, TDD, Agile, Scrum, Microservices, CI/CD, POC, RDBMS, Paas, IaaS, Saas, COTS, SOAP, REST, MFA, SSO, RBAC, SLA, Nginx, Python, Django, Javascript, NodeJS, AngularJS, Continuous Integration/Deployment, Blue/Green Deployment, Ansible, Docker, ELK, Beats, Redis, PostGres, MongoDB, Git/GitLab CI, Jira, Confluence, Scrum, Kanban, BASH, AWS, RDS, IAC

Campus Society (Connectt Ltd) produce a social media platform originally targeted at students, but are expanding is as a platform for businesses.
My role there was to evolve the development showcase to a high volume platform suitable for world class businesses.
Their application stack was AngularJS frontend to Django middleware and MongoDB/ Postgres (RDS) backend.
They also used ElasticSearch for results caching.
Led the creation of detailed High-Level Design (HLD) documents, outlining the expansion strategy.
This involved porting their monolithic architecture deployed to a set of permanent clouds servers in AWS using Ansible to an IAC microservices based cloud architecture in virtual environments on AWS.
This also involved evolving their legacy discontinuous deployment which required a maintenance window for deployment, to an IAC continuous blue/green deployment which was used to deploy live without downtime, coded in Terraform and BASH for Gitlab CI.
The new deployment stack and model I coded up with the developers input to ensure smooth transition, to evolve the workflow and increase productivity over time.
I also needed to code and deploy a new build system using Gitlab CI to remove deployment contention and accelerate product development on Digital Ocean and AWS.
I also coded up as IAC logging aggregation using ELK: ElasticSearch, Kibana, Filebeat and Metricbeat on Digital Ocean and AWS.
All this was using docker for containerisation into AWS and Digital Ocean.
Once this was completed I did performance tuning on the result using Selenium, Celery, Python and BASH on AWS.
I managed to take a site barely capable of 100hits/sec with rare deployments due to downtime to one which exceeded 1,000 hits/sec with daily deployments and had the potential to reach 10,000 hits/sec with further performance tuning and up to 20 deployments per day.
Also a site which suffered from downtime on an unpredictable daily basis, to one where

downtime was a rare and very manageable even during major site upgrades.
SCM was Git using Gitlab, Continuous Integration/Deployment was GitLab CI, project management was Jira Scrum and Kanban, documentation was Confluence.
I was also required to support their community teams, partners and the public for live issues.

DevOps Engineer/Architect (QuintilesIMS 05/17-03/18)

Skills: Global Transformation, Stakeholder Management, KPI, Data Modelling, SDLC, DDD, Roadmaps, HLD, LLD, BDD, TDD, Agile, Scrum, Microservices, POC, TOGAF, ITIL, RDBMS, COTS, SOAP, REST, SLA, Apache, Tomcat, Java, Javascript, Liquibase, Continuous Integration/Deployment (CI/CD), Puppet, Ansible, Jenkins (Java/JVM) (+Pipelines), Docker (+Swarm), ELK, Fluentd, Kafka, Mesos, DC/OS, Zookeeper, Git/GitLab, Jira, Confluence, Artifactory, Groovy, Scrum, Kanban, IAC, PAC

QuintilesIMS globally collect and provide medical data.
My role was to join their existing DevOps team which were creating the full continuous deployment pipeline for developers.
The developers were creating applications for QuintilesIMS clients to ingest, view and prepare reports on medical data.
This was to upgrade an existing product which was past end-of-life.
Engineered the cloud migration strategy, creating High-Level Design (HLD) documents that mapped out the architecture.
Conducted thorough requirements analysis sessions, transforming client needs into technical requirements.
Updated design documents iteratively to reflect changing project dynamics and evolving technical landscapes.
The team had problems with their existing infrastucture which was manually deployed, inconsistent and required constant maintainence.
I was asked create deployments for all the middleware in Docker Swarm using Jenkins Pipelines (Java/JVM) on an existing virtual infrastructure on VMWare ESXi.
This included coding up IAC deployments for Kafka, Zookeeper, Elastic search, Logstash and Kibana (ELK stack) in BASH and Ansible.
I created the deployments from scratch to deploy to development, integration and production environments.
I was also asked to adapt existing legacy Jenkins (Java/JVM) builds to Jenkins (Java/JVM) IAC continuous deployment Pipelines builds.
I managed to stabilise the middleware and create a predictable IAC continuous deployment pipeline which allowed the developers to focus on the application and increase productivity.
Part of my role was to support developers, management, architects and clients fixing bugs and providing customer solutions as needed.
One of these solutions was to create a deployment of Jira Service Desk, which was also in Docker and IAC continuous deployment using Jenkins Pipelines (Java/JVM) on VMWare ESXi.
This also involved costing and presenting the project to senior management of operations.
I was also involved in some POC and analysis for the company's future Mesos platform.
Servers were configured with Ansible and maintained with Puppet.
All code was controlled in GitLab.
Continuous Integration/Deployment was Jenkins Pipelines (Java/JVM).
The teams were managed as Kanban using Jira for all workflow and Confluence for documentation.
Development teams used Scrum workflow which DevOps supported.
The role required some travel to support teams in Warsaw and Paris.

DevOps Technical Engineer/Architect (Secret Escapes 02/17-04/17)

Skills: Stakeholder Management, KPI, Roadmaps, HLD, LLD, BDD, TDD, Agile, Microservices, API Gateways, POC, COTS, SOAP, REST, SLA, MongoDB, Apache, Tomcat,

Java, Javascript, Continuous Integration/Deployment (CI/CD), Ansible, Terraform, Jenkins (Java/JVM), AWS (VPC/EC2/RDS), ELK, Git/GitHub, Jira, Confluence, Grails, Groovy, Scrum, Kanban

Secret Escapes are a holiday trading website and re-seller.
They were really looking to fill a permanent role so I was obtained to fill the role while they were recruiting.
During my stay I was automating their existing manual build/test to a true CI pipeline in Jenkins pipelines (Java/JVM) on AWS.
There main issue was the poor quality tests, which were written in Groovy using the Grails framework.
Also they had issues with the speed of their MongoDB which required tuning
I was tasked to fix immediate issues with the build pipeline and then automate it as much as I could.
Collaborated closely to design a comprehensive plan.
Created and updated High-Level Design (HLD) and Low-Level Design (LLD) documents iteratively.
Conducted requirements analysis, capturing detailed technical and business needs, and translating them into actionable design specifications.
Automation was written in Jenkins Pipelines (Java/JVM) and Ansible on AWS.
I managed to create a predictable continuous deployment pipeline which the developers and testers could benchmark and then iteratively improve, allowing the product to improve.
Also some deployment was build out with Terraform.
Worked on ELK creating RESTful API queries.
All code was stored on GitHub.
All workflow was in Jira using Kanban management.
Other teams were using Scrum management.

DevOps Engineer/Architect (Home Office 05/16-11/16)

Skills: Global Transformation, Stakeholder Management, KPI, Data Modelling, SDLC, Roadmaps, HLD, LLD, BDD, TDD, Agile, Microservices, CI/CD, POC, ITIL, RDBMS, IAC, PAC, COTS, SOAP, REST, SLA, Docker, Kubernetes, ELK, Rancher, Alpine, CoreOS, Postgres, Hadoop, Apache, Tomcat, Java, Continuous Integration/Deployment, Puppet, Heira, R10K, Ansible, Jenkins (Java/JVM), CloudFormation, Terraform, AWS (VPC/EC2/RDS), Git, Jira, Stash/BitBucket, Confluence, NodeJS, Scrum/SAFe

Mastek worked with the Home Office onsite in Fleet Street to provide solutions in their Immigration Platform Technologies.
This was a £13.8 billion project which was delivered early and inside the budget.
Their main issue was the layers of legacy hacked deployment strategies which were now impossible to maintain.
I was asked to provide a solution encompassing their existing Puppet/RPM solution into a new Kubernetes/Docker/AWS continuous deployment environment.
This involved assessing their existing Puppet/Jenkins (Java/JVM)(JJB)/RPM/Nexus development toolset and porting it to Terraform/AWS/Jenkins (Java/JVM)/Docker/Nexus.
Conducted requirements analysis sessions, translating business needs into technical specifications and updating the HLD and Low-Level Design (LLD) documents iteratively to ensure alignment with project objectives.
Modules which were written in Java for Apache Tomcat were wrapped into Docker containers and regression tested on the new AWS platform with Jenkins Pipeline (Java/JVM) scripts.
Postgres Database scripts which were written in Liquibase were ported to AWS RDS service which was also regression tested by Jenkins Pipeline scripts (Java/JVM).
Also the Hadoop cluster was moved to the AWS EMR service which was also regression tested.
I was involved in the coding of the scripts to port to the new infrastructure
Working as part of a team I managed to port most of the infrastructure to the new model which mean the developers could focus on improving the product with shorter deployment cycles.
Also working with another consultant we coded up a logging aggregation solution as IAC in Jenkins (Java/JVM) for ELK: ElasticSearch, Logstash and Kibana.

The AWS estate was coded and deployed using Terraform and CloudFormation.
Servers deployed as IAC with Ansible and maintained with Puppet Heira.
All code was controlled in GIT/BitBucket(Stash).
The teams were managed as Scrum/SAFe using Jira for all workflow and Confluence for documentation.

Lead Real-Time DevOps Technical Engineer/Architect (CenturyLink 02/13-01/16)

Skills: Stakeholder Management, KPI, Roadmaps, HLD, LLD, POC, ITIL, ETL, RDBMS, SDN, , COTS, SOAP, REST, MFA, SSO, SLA, Financial (Nasdaq, NYSE, LSE, BME, TSE, +others, Equities, Derivatives, Forex), MetaTrader 4+, ITCH/MITCH, FIX, MoldUDP/MoldUDP64, ATM, RIP, OSPF, IS-IS, STP, BGP, MPLS, Ethernet, Cisco, Juniper, Windows, Linux, Puppet, Chef, VMWare (ESX/vSphere), HyperV, AWS (VPC/EC2/S3/IAM).
Reason for Leaving: Business shrunk causing reversal of granted career move.

CenturyLink (formerly Savvis) provide global hosting and network services to financial and other clients.
Hired to provide expert-level technical support for their main financial customer Thomson-Reuters and their customers.
Retained business worth £109 million with Thomson-Reuters for CenturyLink.
Thomson-Reuters customers include RBS, HSBC, Barclays, Lloyds, Meryll Lynch, Ava Kapital, plus many other banks and financial organisations.
Develop and provide fixes for network and hosting problems.
Work with Thomson-Reuters engineers and management to maintain their customer trading platforms.
Their main problem was loss of data and traffic on international under sea connections.
Required to understand financial applications at kernel/device level to work with customer developers in C++/Java on Linux and Windows.
Also required to understand IP, ATM and MPLS networks at CCIE level to work with suppliers on static and dynamics routing global networks.
Administered cloud systems on ESX (LabView/vSphere), HyperV and some on AWS (VPC/EC2/S3/IAM) for customers.
Applications were deployed as Docker containers and chroot jails onto ESX and AWS.
As lead worked architects to refine new solutions and senior leadership to SVP level to manage the customers needs.
Using specialised equipment of my own design, I managed to provide insight into the details of the network issues, which meant solutions were then forthcoming in a predictable and manageable way.
This retained a lucrative delicate customer contract with Thomson Reuters and other financial businesses, including banks, which were in trouble since I joined.
Provided consultancy services for Thomson Reuters developers to help them adopt DevOps culture.
Required to use Remedy BMS software for incidents/requests also Puppet Enterprise and Chef for deployment/administration.

Direct reports:2 Reporting to: Global Senior Manager
Indirectly managing approx 50 Engineers workload when required.
Cooperatively managing a budget of £110million.

LTE Platform DevOps Engineer (Alcatel-Lucent 11/12-01/13)

Skills: Linux, SMB/CIFS, NFS, DHCP/DNS, Apache, Python, packages, Bash/Awk/Sed, Jenkins (Java/JVM)/Hudson, Docker, chroot, VMWare (ESX/vSphere).

Alcatel-Lucent provide telecoms and mobile networks world wide.
Hired to work on the continuous integration testing systems which are on Jenkins (Java/JVM)/Hudson.

Developed python/bash test scripts for LTE platform builds to test on virtual machines on ESX.
Worked on existing deployment and testing system to improve coverage with Jenkins (Java/JVM), Puppet, and both chroot and Docker on ESX.
Also worked on fixing bugs in the build to pass tests.
System involved fixing package builds (debian and tar).
Worked on a Scrum (agile) managed environment.
Worked on files in clearcase version control.

System DevOps Engineer (Qualcomm 02/12-09/12)

Skills: Debian Linux, Windows, SMB/CIFS, Apache, Perl, PHP, Javascript, DEB packages, Bash/Awk/Sed, Virtualisation (HyperV), Puppet, Docker, chroot.

Qualcomm are silicon producers for the mobile phone industry.
They needed server provision for a development project.
Their main issue was a temperamental product which had technical instability which blocked the progress.
I created and deployed the virtual machine hosting environment and client machines as per company requirements.
I solely administered: git source control, bugzilla, apache, documentation (service) and automated testing service.
All the facilities are company wide services.
I also created and ran automated tests on the developed software using Puppet and chroot/Docker for HyperV.
Working with a hardware engineer, I managed to debug technical issues and stabilise the product so they could move the project to completion.
The client machines were a combination of Windows XP, Windows 7 and Debian Linux.
As part of the testing, jobs were run from the Linux machine to run Windows applications using bash/DOS batch and remote desktop.
I also set up the debian server to shared company and local filesystems using SMB/CIFS via it's apache webserver.
Company filesystems were held on a NetApp filer and used Active Directory (LDAP/Kerberos) for security.

Direct reports:1 Reporting to: Program Manager

Embedded System DevOps Engineer (AceAxis Ltd 07/11-09/11)

Skills: RedHat Linux, XEN, Puppet, Docker, chroot, PXE, Perl, RPM, Bash/Awk/Sed.

AceAxis produce radio masthead LTE systems for the mobile device industry
Worked on Linux platform to debug issues with their systems.
Deployed test infrastructure on LAMP and XEN virtualisation using Puppet.
Continuous integration and deployment using Hudson, Puppet and chroot on Xen.

Test System Developer/Administrator/Architect (ST 11/10-06/11)

Skills: RedHat Linux, Puppet, WordPress, Drupal, PXE, Perl, RPM, Bash/Awk/Sed.

ST are a global embedded silicon manufacturer.
Test system design, deployment and management.
Asked to deploy and support Wordpress and Drupal environments.
Deployed a continuous integration on VMWare using Puppet and Hudson/Jenkins (Java/JVM).

Required to manage 2 teams of developers

Media System Developer/Administrator/Architect (BBC 07/10-08/10)

Skills: SuSE Linux, PXE, Yast, Perl, RPM, Puppet, Bash/Awk/Sed, ESX.

Here the project was to deploy/administer Ingex as a commercial product in a similar way to the Sony product on which I was working 2005-6
This contract was cut short (6 moths to 5 weeks) due to a change in the business requirement.
I was tasked to create/administer an repeated deployment/release and test system using Puppet on ESX.
During the short time I was on the project I created a fully automated nightly remastered DVD deployment from scratch.
I also created a full matrix automatic test system for all the current and future video+audio formats Ingex supports.
I worked with the R&D team to create the automated test plan and worked with their CVS, SVN and GIT repositories.
I also was required to deploy/administer a separate GIT repository for the release code.

Direct reports:1 Reporting to: Project Manager

Cluster Administrator (Schlumberger 12/08-01/10)

Skills: Puppet, Apache, Tomcat, Jira, RHEL 4/5/6, Kickstart, RPM, Server Administration, Virtualisation (ESX/vSphere/Oracle), Active Directory, Clusters, NAS, Perforce, PVCS, Scripting automation, Cisco Networking, Nagios, SNMP.

Schlumberger are the leaders in providing and support high performance simulation software to the oil industry in which I was:
Responsible for 32Tb NetApp Filer.
Responsible for user disc allocation across the whole company.
Worked closely with High Performance Computing (HPC) department.
Responsible for administration of several Linux High Performance Computing clusters (64 node, multicore).
Deployed and administered company wide build servers using Puppet.
Wrote many management and maintainence web interfaces in Perl with AJAX.
Wrote many automation systems in Bash/sed/awk.
Required to research and deploy virtualisation solution for testing team, including leaseing with testing team project managers.
Responsible for deployment and administration of virtualisation solution for testing team.
Provided advice to senior management regarding virtualisation (ESX/Oracle) strategies.
Responsible for maintainence of Apache/Tomcat servers.
Responsible for Cisco switch maintainence.
Deployed and maintained Nagios monitoring across most servers and clusters using SMNP and wrote plugins.
Worked closely with PC support team to provide integrated Linux/Windows deployment and support strategies.
Worked closely with Windows server and corporate network support teams.
Working with Perforce, deployed Linux Perforce/PVCS server and integrated it to the existing Windows Perforce source control strategy.
Deployed and maintained Linux servers as needed.

Direct reports:1 Reporting to: IT Manager

Network Architect/Software Engineer (Frazer-Nash 02/08-10/08)

Skills: Web Design, Perl/CGI/PHP, Java/Javascript/AJAX, XML, Apache, Server Administration, Virtualisation (EC2), Windows Development/Administration, Active

Directory, Embedded, CANBUS, PIC.
Reason Leaving: Agreed salary increments not honoured, plus no pension or heath benefits.

Installed and maintained RedHat virtualisation.
Installed and maintained RedHat web server for internal hosting testing (EC2).
Installed and maintained Windows terminal server (virtual server) and added to Active Directory controller.
Installed and maintained web facing RedHat project collaboration server.
Created browser based interface and support tools in Perl/JavaScript and C/C++.
Worked with the network management and intranet team to provide additional support for Linux-based tools.
Provided advice, support and training.
Key software engineer on a Windows development project including QT4 development.
Developed Advanced GUI which is used an in-car display, using multithreading and OpenGL.
Worked on high power brushless DC motor control, modified embedded Space Vector Modulation control software to improve BLDC performance.
Modified CANBUS interface code to improve debugging of embedded 16-bit BLDC controller.
Interfaced advanced display to hardware via PIC.

Direct reports:3 Reporting to: Director Software Engineering

LINUX/UNIX Technical Support Specialist on BBC.CO.UK (Siemens 07/07-12/07)

Skills:RedHat/Solaris Server Administration, Web Design, Perl/CGI/PHP, Java/Javascript/ AJAX, XML, Apache, mod_write, mod_proxy, Real/Windows Streaming Audio/Video Administration, NAS/SAN, Load Balancing/Clustering, DNS, DHCP, SCSI, RAID, Customer Facing, Remedy, Scripting automation.
Reason Left: Probation period, unsuitable role (training not provided as arranged)

Siemens manage the web sites for a number of customers including BBC and ONS
Largest was BBC website farm of approx 500 servers which are balanced in groups
The role involved working on Remedy tickets raised by the customers and problems raised by system monitoring.
Most of the work involved resolving machine outages, hardware, DNS and streaming issues, and web application problems
Configured caching farms and load balancing web/application servers using DNS.
Used virtualisation tools (vmware) and built and maintained large scale application stacks.
An element of the role required me to be 24 hour on-call for one week periods.
Solaris training not provided as agreed in interview which held back my progress in the role.

Direct reports:5 Reporting to: Team Manager

Linux Development Contract (Datapulse 02/07-06/07)

Skills: Web Design, Perl/CGI/PHP, Java/Javascript/AJAX, XML, Apache, Embedded (Debian/ Ubuntu) Linux, kernel, 16-bit (Philips XA), H323, Bash/Awk/Sed, VC6, ActiveX, DLL

Applied a firmware modification to Philips XA processor based Nortel PABX client in Embedded C/Assembler.
Revised a modified Debian distribution for USB embedded EPIA10000.
Applied software fixes to Linux services in GNU C++/Perl/Bash.
Successfully undertook major refactoring of Windows client side code in Visual C++ 6 ActiveX and DLL.
Fixed long outstanding bugs (2+ years).
Provide Linux Mentoring.
Set up documentation server on LAMP stack (RedHat Linux/Apache/MySQL/PHP) using MediaWiki/Doxygen/HTdig.

Used the companys Visual SourceSafe source control system and PRF (in house) bug tracking system.

Direct reports:3 Reporting to: Project Leader

Linux Development, Administration and Support Contract (Sony 06/05-12/06)

Skills: Web Design , Perl/CGI/PHP, Java/Javascript/AJAX, XML, Apache, Linux kernel, clusters, MySQL, Apache, MIPS, RedHat ES 3/4, Kickstart, RPM, RedHat Network, Windows Active Directory, DVB, HD, MPEG, Bash/Awk/Sed, RAID management, disaster recovery solutions.

Debugged and documented MIPS DVB target embedded Linux platform using GNU tools.
Provided mentoring services for colleagues (as part of contract requirement).
Wrote Installation software for RHEL3 Linux target in TCL/TK and Bash/Awk/Sed.
Adapted a Linux cluster management system using Condor/Bash/Awk/Sed.
Administered RedHat media server to work with Window XP and Mac clients via Samba/CIFS and NFS in BASH/Perl.
Package management via the RedHat Network.
Repackaged RPM builds for deployment.
Adapted web based account administration tool in Perl/CGI/XML/Awk/Sed/Bash.
Refactored Web tool to PHP/JavaScript/XML from Perl.
Created RAID system and web-based RAID management system in Linux using Linux RAID and PHP/BASH.
Debugged and redesign system to add co-operation between Windows 2K/2K3 Domain Controller, RedHat ES Server, Windows XP and Mac clients using Samba/CIFS, Active Directory and NFS in Bash/Perl/Awk/Sed.
Adapted RedHat install CD/DVD to install Sony media system as well as RedHat OS as an media server build system using CD remastering tools and Python.
Involved(paired) in writing/adapting/debugging of DV/HDV MPEG format converters (ffmpeg/avilib/quicktime) in C/C++/Java.
Involved in project level implementation details of Java video codecs (Quicktime).
Included security key system to CD/DVD installer to lock installs to hardware using Linux network drivers and MD5 checksumming in Bash/C.
Adapted CD Linux distribution to create a server disaster recovery solution using Knoppix/Gentoo, KDevelop/QT and CD remastering tools.
Collaborated development with Sony's Californian team using Skype/email/CVS/TestTrack.
Used company's CVS, Clearcase, etc source control systems, project management/bug tracking software (Bugzilla/TestTrack).
Provided general Linux site support and mentoring.

Direct reports:1 Reporting to: Project Manager

Embedded DAB Contract (Frontier Silicon Ltd 03/05-06/05)

Skills: Embedded C, GNU toolset, Bash, Awk, Sed, Device Drivers, DAB, JTAG, VHDL, Logic/Scope Analysis

Wrote flash drivers using GNU tools and Lauterbach JTAG on embedded hardware target.
Wrote PC based emulation of hardware with GNU Tools in Bash/Awk/Sed/C/C++.
Worked with Hardware Engineers to diagnose/debug FPGA using logic analyser, scopes and simulation.
Adapted drivers to use DMA drivers provided and PC emulation with GCC/GDB/DDD.
Integrated software (file access layer and block layer) provided by Samsung to provide file system.
Used company's CVS source control system.

Mobile Handset CRM Contract (Ericsson Mobile Phones Ltd 11/04-02/05)

Skills: CRM, Clearcase, GSM, UMTS, Visual C++, Problem Solving, Perl

Processed Ericsson's Customers' requests adapted code.
Performed source and product merges in Clearcase using Ericsson produced Java/Perl tools.
Processed requests via Ericsson's incident tracking software.
Adapted source code on Ericsson's GSM and UMTS ARM products and PC emulation software for their customers written using Visual Studio in C/C++ and Object C.
Tested and exercised solutions on a evaluation board, on customers handsets and in PC emulation using internal test and calibration software.
Used Company's Clearcase source control system.

Embedded Linux/PowerPC Contract (Accton UK Ltd 06/04-10/04)

Skills: Motorola Book E/E500 core complex (8540), Assembler, Linux Kernel, Device Drivers, JTAG, CVS

Tested bootloader (Motorola U-Boot) and Montavista Linux distribution on a pre-delivered Motorola development board with GPL code using a BDI debugger and JTAG Tools.
Obtained and tested boot loader source for Motorola development board (DENX U-Boot) using JTAG Tools.
Modified bootloader code to add comprehensive scripting engine using Linux GNU tools in embedded C.
Adapted scripting engine to be emulated on both Linux and Windows environments using QT/GNU, Borland command line tools and a Windows emulation in C and C++.
Ported bootloader source to be used on an Motorola router board which the company is manufacturing using GNU tools in embedded C and Assembler.
Wrote driver code in the bootloader to allow network port crossover at TCP layer 2 (MAC) to assist the hardware team in testing using GNU tools in embedded C.
Worked with and supported the hardware and software teams and used the company's CVS source control.

German Project Management Contract (Sci-Worx GmbH 12/03-02/04)

Skills: Project Management, Effort Estimation, MS Project, MPEG4, CVS, Clearcase, Linux

Learned the companys protocols and used technical knowledge for specification negotiation.
Wrote a plan for the client and then follow this through supporting and giving assistance as necessary.
Re-negotiated deadlines in absence of the program manager.
Learned extra technologies and how they fit with the firmware in order to guide the engineers.
Learn and present implementation details of MPEG4 CODECs to engineers and management.
Used the companys document and code control CVS and Clearcase. Also learned some German.

Direct Reports:10, Indirect Reports:25, Reporting to Project Director.

Senior Project Engineer (Domain Dynamics Ltd 01/02 - 07/03)

Skills: Visual C++, Embedded C/C++, VB, Pocket PC, Matlab,signal processing, Linux, Device Drivers, JTAG, CVS, IT Administration, CVS
Reason Left: Company in severe financial crisis. Made redundant as part of shrinkage. Has since folded.

Wrote signal processing algorithms in Matlab, Visual C++/MFC and embedded C++ using Embedded C++ 3.
Ported Voice authentication C++ application to WinCE/Pocket PC platforms.
Wrote C++ applications for Linux and Symbian (short test project only) to assess platform porting feasibility.
Redesigned and rewrote the current core development kit as an ActiveX SDK in Visual Studio.
Wrote ActiveX sound API driver and LPT device drivers to go with SDK for Win98/2000 in Visual Studio.
Ported a number of algorithms from Matlab to Visual Studio as ActiveX controls.
Adapted to include smart card voice authentication using time warping applet on the card.
Wrote a smart card ActiveX control for use with the applet for voice authentication on a PC in Visual Studio.
Built and maintained a Linux server used for development and was the companys FTP server.
Managed several projects and a small but variable team of project engineers.
Was involved in recruitment and client contract assessment, faced clients, wrote promotional and demo software and documents, involved in marketing campaigns including TV productions for the BBC.
Used to companies CVS source and document control system.

GPRS PC Card Contract (Option International NV 05/01-12/01)

Skills: Real-Time Embedded C/C++, Device Drivers, ARM, Clearcase
Re-wrote PCMCIA embedded boot driver to boot ARM7 card, download FPGA configuration and download CIS via cards system bus from internal memory in target time of 1 second (PCMCIA Spec) in embedded C.
Re-wrote a UART driver for the ARM7 card in real-time embedded C.
Designed a method for in field reprogramming of the firmware using VHDL and embedded C/C++.
Managed some of the companys staff on this project and used the company's Clearcase version control system.

GSM Layer 1 Contract (TTPCom 10/00-04/01)

Skills: Real-Time Embedded C/C++, RTOS, GSM Layer 1, Device Drivers, ARM, JTAG
Built simple OS and device drivers on ARM 940T platform in embedded C and ARM assembler.
Wrote hardware interrupts vector handlers, set-up memory and stacks in ARM assembler and interfaced functions from the assembler for second layer in embedded C using ARM SDT, JTAG.
Wrote Layer 1 embedded device drivers for LCD display, phone keypad, RF & audio DACs & ADC, JEDEC drivers for flash memory, UART I/O, ALU register access, interrupt controller, PCI Bus controller, plus other system resources in embedded C.
Wrote a user interface menu system application layer in embedded C to be accessed via the primary UART using a terminal emulator.
Wrote bootstrapper which had 2 UART drivers (one user, one debugging) and a flash driver in assembler.
Provided spec for hardware layer to the AMX Kadak kernel to provide a generic (portable) kernel interface.

Used the project version control system (PVCS).

Belgian Embedded RTOS Contract (ERG Transit Systems/AES Prodata 06/00-09/00)

Skills: Real-Time Embedded C/C++, Device Drivers, Motorola 68332, Linux, UNIX.

Wrote applications and device drivers for Motorola 68332 target in real-time embedded C.
Wrote test tools in C++, and upgraded and tested device drivers using Metrowerks in embedded C/C++.
Modified the embedded magnetic card/printer driver to account for unusual ticket loss.
Tested the amended the embedded device drivers on the Motorola target via UNIX debugging suite.
Ported DOS console applications to Windows dialog applications using Visual C++ 6.
Reverse engineered applications to operate on a variety of Windows platforms.
Projects were held on a Solaris UNIX server, were written on a UNIX terminals, Linux PCs and under TEAMWARE source control.

Windows CE Contract (Milton Keynes Council 12/99-05/00)

Skills: Embedded C++, device drivers, Smart Card, WinCE, SQL Server 7, Oracle 8, Visual Studio

Wrote applications that interface with a smart card reader to read and store information on bus passes (smart cards) in Visual Studio and embedded C++ for WinCE 2.11 HPC target (Phenom palmtop).
Implemented a portable system that comprises a HPC device, an ASCII receipt printer and a smart card reader to give the user a portable station to issue, withdraw and update the passes.
Wrote device drivers for the smart card access built up 4-layer stack (hardware/ network/ transport/ application layer) in embedded Visual Basic 3 then in embedded C++ 3.
Wrote management tools using Visual Basic 6 to access the database through an ODBC connection either direct to the Oracle 8 server or via MS SQL 7 Server, enabling the viewing and printing out reports for accounting purposes.

VB/SQL Contract (The Planning Inspectorate 06/99-12/99)

Skills: SQL Server 6.5, MS Access, VB, VBA, ActiveX, Sourcesafe

Adjusted the requirements, high-level and low-level designs and wrote pseudo-code and products.
Managed the team in coding of the application and was responsible for ensuring conformity protocols design.
Assisted in beta testing and user feedback.
Ported and redesigned database from Access to SQL Server using ODBC and Visual Basic 6.
Wrote form based application to integrate MS Word and MS SQL 6.5 Server in VB and VBA.
Wrote database management tools for database administrators to maintain/amend SQL Server letter data in VB/ActiveX using Visual Basic 6 under MS Sourcesafe.

Bangor Website Contract (Bangor City Council 12/98-04/99)

Skills: HTML, TCP/IP, ActiveX, Linux

Worked with the clients to iterate page designs and wrote web pages for Bangor Council

and local businesses for IE and Netscape (on SuSE Linux) in HTML using a text editor, an image editor and browsers.
Worked with the ISP to establish a server running ActiveX in London and remotely supported from Wales.

Internet Cafe Contract (The Green Room Cafe 06/98-12/98)

Skills: Linux, TCP/IP, Ethernet, Server and IT Support, CRM, Customer Facing
Set up and ran an Internet cafe from within an existing popular cafe.
Designed and wrote marketing application which presented the company imagery, fired up several productivity applications to replace MS Explorer in C++ and MFC using Visual C++ 5.
Designed and implemented system including network fax server and a proxy firewall server.

Bailrigg FM (at University), 09/96-06/98

Skills: VC++, Borland C
Reason: Left due to degree finish

Reverse engineered the DOS C database system in C++.
Designed an developed database and debug logger database in C++ and MFC using Visual C++ 5.

Help Desk (Lancaster University 01/98 - 04/98)

Skills: NT Administration, UNIX Administration, Customer Facing, Customer Support
Reason: Left due to degree finish

Set up users accounts and solved access problems on Sun Solaris UNIX server and the NT server.
Demonstrated to customers how to access email via ELM and PINE on both UNIX and NT workstations and operate printing services through the NT print server.
The PCs were UNIX disk less terminals, Windows for Workgroups 3.11, NT3.51, NT4.0, and SUSE Linux.

Repair/Conversion/Installation Engineer (Self employed 06/85 - 09/94)

Skills: RF, Electronics, Support, Customer Facing, CRM, 240/415VAC Power, IT Installations
Reason: Finish to start degree

Trained and worked on mains installations, wiring office buildings for mains supply.
Installed IT client/server networks into offices.
Trained, built and repaired RF and audio amplifiers, power supplies also analogue and digital tuning circuits.
Built, repaired and tuned several different designs of antennas including beam and wide-band.
Repaired domestic equipment, repaired and adapted PMR and HAM radios.

EDUCATION

Lancaster University, 09/95 - 06/98

Qualifications: BSc Computer Science

Degree modules included GUI Design, Natural Language Processing, Telecommunications, Presentation & Documentation, Computer Systems Architecture, Communication, High Level Programming, Software Engineering and Databases.
Design methodologies used during the degree included OOD (Object Orientated Design), Waterfall Design, Black Box Testing and CASE Tools.
UNIX experience included Sun Solaris and SuSE Linux.
High level work on Ingress, SQL, C, C++, Visual C++, MFC, Active X, HTML.
Designed and built robot devices in assembler, C, C++ on embedded targets with decision making abilities.
Designed and wrote device drivers for DIO controllers, RS232 ports and 418MHz RF radio modules.

University of Central Lancashire, 09/92 - 06/94

Qualifications: BEng Mechanical/Electronic Engineering

Degree modules included Design and integration of electro-mechanical systems, Energy conversion and actuation systems, Embedded systems and control, Power electronics and electric drives, Energy management, Mathematics, Thermal management, Dynamics and control, Computing, Electrical energy technologies, and Analogue and digital electronics.
Designed and built robotic control systems.
Wrote intelligent embedded systems for autonomous control of vehicles and articulated manipulators.

Lancaster & Morecambe College of Further Education, 09/89 - 06/92

Qualifications: BTEC National Diploma Electronic Engineering Course

Passed at distinction (highest) level: Microprocessor Control, Information Technology, Electronic Principles, Electronics and Mathematics.

School: Heysham High School, Morecambe, Lancashire, 09/78 - 03/85

Qualifications: A Levels, O Levels and CSEs

O Levels: Maths A, Physics B, Computer Studies C, Control Technology B, Technical Drawing C.
A Levels: Maths, Physics, Computer Science, General Studies.
CSEs English II, French II.

INTERESTS AND HOBBIES.

Personal Life

Keen interest in music, cycling, skydiving, weight training, cars (mechanics) and electronics. Host local organisations on private cloud for over 10 years at www.netlinux.co.uk.
Also training IT engineers in Sierra Leone, Africa and building global electric car company www.turbo-electric.com

Other Information

Nationality: ENGLISH, but also speak some French, German and native African languages
Date of Birth: 01/04/1967
Marital Status: Married with 2 Children and live in Reading, UK