# Mark Mitchell

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## Summary

I have over 20 years of Java programming and application development experience across various industries, including fintech, telecommunications, and hospitality. I possess practical, hands-on expertise in executing and architecting the modernisation of legacy systems, including migration to cloud-native architectures such as microservices. I have strong DevOps skills ranging from cloud infrastructure deployment automation to CI/CD pipeline configuration, with particular focus on AWS environments. During the initial 10 years of my career, I specialised as a full-stack developer, implementing robust middleware and creating feature-rich UIs. Currently, I’m expanding my expertise by integrating AI and machine learning into my technical toolkit to enhance and optimise the systems I build.

## Technical Expertise

**Core Technologies**

* Java (Spring Boot, Spring Security, Spring Cloud, Hibernate)
* API Development (REST, GraphQL, OAuth 2.0, JWT)
* JavaScript/TypeScript (React, Angular, Vue.js, ES6+)
* Database Technologies (SQL, NoSQL, MongoDB, Oracle)

**Cloud & DevOps**

* AWS (ECS, EKS, S3, SQS, Lambda, AppConfig, CloudWatch, VPC/Networking, IAM, EC2, ECR, SSM, Security Groups)
* Containerization (Docker, Kubernetes, Minikube, Helm)
* Infrastructure as Code (Terraform, Terragrunt)
* CI/CD (Jenkins, GitHub Actions, GitLab CI)

**Architecture & Methodologies**

* Microservices Design Patterns
* Event-Driven Architecture
* Agile/Scrum, Test-Driven Development
* Legacy System Migration

## Professional Experience

| **Principal Engineer (Contract)** | **Oct 2023 – Nov 2024** |
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*Financefair*
*Fintech platform enabling SMEs to access working capital through invoice trading.*

**Role & Responsibilities:**

* Lead technical architecture and infrastructure modernisation initiatives
* Build and mentor engineering team with appropriate skillsets
* Implement observability solutions and monitoring systems
* Design and deploy secure cloud infrastructure using AWS services

**Key Achievements:**

* Diagnosed and resolved critical system stability issues by optimising JVM memory settings, eliminating production crashes
* Implemented comprehensive observability solution using Datadog with custom alarms and dashboards, reducing incident response time by 80%
* Completely rebuilt infrastructure using Terraform, Terragrunt, and GitHub Actions, improving deployment consistency and reducing maintenance overhead
* Enhanced security posture by migrating all services and databases to private subnets and implementing AWS Session Manager, eliminating SSH access vulnerabilities
* Orchestrated migration from EC2/Docker to AWS ECS, improving scalability and reducing infrastructure costs by 40%
* Built and trained a high-performing engineering team, establishing best practices for modern cloud-native development

| **Senior Software Developer (Contract)** | **Aug 2021 – Apr 2023** |
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*Workhuman (Integrations Team)*
*Workhuman provide recognition software to companies, enabling employees to recognise and reward each other.*

**Role:**

* Development and maintenance of customer-facing APIs and associated security concerns
* Identify process/pipeline/cycle inefficiencies across team & squads
* Provide technical training and advice to squads as part of the integration team’s modernisation drive

**Key Projects:**

* Security modernisation for public-facing APIs
* Kubernetes sandbox development environment using Minikube, Helm and Skaffold
* Technical training in the form of POCs, detailed documentation, presentations, and recorded videos. Sessions included:
	+ Deploying services to AWS ECS (Spring Boot and Terraform)
	+ Service security (Spring Security, Ping Federate and AWS Cognito)
	+ Various microservice patterns (e.g. Gateway Pattern, Event Driven, etc.)
	+ Deploying code with feature flags (AWS AppConfig)

| **Senior Software Developer (Contract)** | **Sept 2020 – Aug 2021** |
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*LexisNexis Risk Solutions (Telematics Team)*
*LexisNexis Risk Telematics provide analytic solutions to car insurance companies using event data provided by automakers.*

**Role:**

* Backend developer responsible for the architecture, development and deployment of Spring Boot based microservices.
* Writing Terraform infrastructure modules & designing AWS deployment pipelines
* Unit, Integrations & BDD Tests using LocalStack.
* Provide technical mentorship to team members.

**Key Projects:**

* The primary project was developing a set of services responsible for enriching Connected Car event data with Personal identifiable information.
* Services were implemented using Spring Boot & Spring Cloud.
* Data read from encrypted AWS S3 bucket, new data events published to AWS SQS. BDD Tests implemented leveraging LocalStack (AWS docker based emulator).
* Various DevOps related tasks…
	+ Write supporting Terraform Modules
	+ Resources deployed to AWS using Terragrunt & Terraform via GitLab pipelines
	+ Services deployed to AWS Fargate.
	+ Continuous Deployment PoC using Github Actions & jFrog

| **Head of Technology (Contract)** | **Sept 2017 - Jan 2020** |
| --- | --- |

*Invoicefair*
*InvoiceFair is a company that enables SMEs to sell invoices to investors using a bespoke trading platform. They have traded over €1.5 billion through the platform and won Most Disruptive Fintech Award at 2019 Deloitte Financial Services Innovation Awards.*

**Role:**

* Backend developer responsible for the migration of a legacy system to a microservice architecture.
* Prototyping and development of new features.
* Evaluating emerging software technologies and frameworks.
* Provide technical mentorship to team members.
* Identify and address life cycle or process related inefficiencies.

**Key Projects:**

* The primary project was the migration of a legacy .NET Monolith to a microservice architecture. My tasks included…
* Prototyping various architectures and microservice configurations
* Securing front (Angular) and backend (Spring Boot) microservices using Springs OAuth 2.0 platform security and Netflix’s Zuul router.
* Migrations of .NET services to Spring Boot based REST services.
* Full rewrite of the platforms internal banking API functionality (Spring Boot, SQL server)
* Various external API integrations e.g. Experian Financial reports (WSDL), MoneyCorp banking (REST), Slack (Webhooks)
* Various DevOps related tasks…
	+ Configured environment Infrastructure deployments (Terraform and Chef)
	+ Setup CI/CD tooling using Jenkins pipelines on a Kubernetes cluster.
	+ Creation of a remote developer sandbox leveraging Eclipse Che, allowing developers to spin up fully emulated personal development/debugging environments in minutes, without the need to locally install many programs, frameworks and tools.

| **Senior Software Developer (Contract)** | **Mar 2013 – June 2017** |
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*The Now Factory (an IBM company)*
*The Now Factory provides analytics software that helps communications service providers gain real-time insights into their customers by analysing massive quantities of network and business data. It was acquired by IBM in 2014.*

**Role:**

* Applications Team member responsible for developing next generation middleware
* Writing unit tests
* Develop proof of concept products/features utilising latest technologies
* Debug and solve customer issues
* Code reviews
* Participate in scrum development process (planning, estimates, etc.)

**Key Projects:**

* Developed a data loading CLI module responsible for distributing and loading potentially 100s of millions of records from text files into potentially 80 separate Oracle database instances. A key requirement was high speed loading. Implemented using Java, Spring Batch and SQL Loader.
* Proof of concept next generation data analytics UI. Developed using latest ES6 JavaScript features, NodeJS, Yarn, NMP, React, Redux and many other libraries.

| **Senior Software Developer** | **Jul 2008 – Feb 2013** |
| --- | --- |

*Wedo Technologies*
*Wedo Technologies provide Revenue Assurance products to communications service providers, which assist in eliminating revenue leakage by reconciling network consumption and billing system information.*

**Role:**

* Full stack development role.
* Writing unit tests
* Debugging and fixing code bugs

**Key Projects:**

* Responsible for developing the backend of a data analytics application written in Java using Spring, REST, JMS, Presto & Hive.
* Developed various features including a formula parser and validation service which involved parsing and validating a grammar and providing detailed feedback to client (that could be used in UI to highlight lexical errors & provide content assist). Implemented using Spring and ANTLR.
* Implemented various features for a data analytics Portlet application container. For example, a configurable charting dashboard using technologies such as jQuery, Highcharts, Struts MVC, Spring services, Velocity, Hibernate, Oracle.
* Expression builder component using jQuery and CodeMirror UI backed by Struts MVC and Spring services

| **Software Developer** | **Jan 2001 – Sep 2006** |
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*In1Solutions*
*Provider of Hotel Booking Engine Technology.*

**Role:**

* Responsible for the development of a product called Hotel In1
* Designing and managing the database, writing PL/SQL maintenance scripts, optimising performance, etc.
* Liaising with the Hoteliers system vendor to capture requirements and identify integration issues
* Debugging and fixing code bugs

**Key Projects:**

* Developed a Hotel booking engine which is used by hundreds of hoteliers worldwide. Implemented using a Flash based UI, Java & EJB middleware. Backed by an Oracle database.
* Integrated the booking engine with several hotelier’s in-house property management systems using various Web Service technologies (SOAP, REST, JAXB, XMLBeans, Axis)

## Education

**Certifications**

* Sun Certified Programmer (Java 5.0)

**Athlone Institute of Technology**

* H. Dip in Computing (1999-2000)
* B. Eng Polymer Engineering (1995-1999)