Contact

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(LinkedIn)

Top Skills

Snowflake
Extract, Transform, Load (ETL)
Data Engineering

Certifications

Google Data Analytics Specialization
AWS Certified Solutions Architect –
Associate

Ali Idrees Butt

Graduate SWE @ NatWest
Greater Edinburgh Area

Summary

I am a Software Engineer with a specialized dual background in
Computer Science and Psychology, currently focused on Data
Engineering and large-scale cloud-based data warehousing at
NatWest Group. My expertise spans AWS infrastructure, backend
development with Java/SpringBoot & C#, and machine learning.

Professional Highlights:
Data Engineering: Currently managing ETL pipelines and upskilling
in Snowflake architecture to support enterprise data solutions.
Backend Development: Architected a standalone Java/Spring Boot
microservice for notification retries and achieved 86% unit test
coverage via JaCoCo. Previously developed C# microservices for
telemetry parsing with 100% test coverage using TDD.
Infrastructure & Cloud: Certified AWS Solutions Architect Associate
with experience automating compliance reporting for 800+ accounts
using Lambda, Step Functions, and AWS Config.
Innovation: Placed 4th out of 120+ teams in a firm-wide Hackathon
by building a Python-based NLP tool (using TF-IDF & Cosine
Similarity) to identify redundant repositories and reduce infrastructure
costs.

My academic background includes an MSc in Computer Science,
where I fine-tuned a BERT model for depression detection, bridging
my technical skills with my insights from a BSc in Psychology.

Core Skills:
Languages: Python, Java, C#, SQL.
Cloud & Data: AWS, Snowflake, Infrastructure as Code (IaC).
Frameworks & Tools: Spring Boot, .NET, Boto3, GitLab, CI/CD.
Methodologies: Test-Driven Development (TDD), Microservices,
Agile.

Experience

NatWest Group
1 year 5 months

Data Engineer
January 2026 - Present (1 month)
Edinburgh, Scotland, United Kingdom

Third placement:

- Focusing on cloud-based data warehousing, Snowflake proficiency, and large-scale ETL pipelines.

Back End Engineer
July 2025 - December 2025 (6 months)
Edinburgh, Scotland, United Kingdom

Second placement:

As a Backend Engineer within the Click to Pay team, I architected Java/SpringBoot microservices and automated notification retry logic while maintaining high code quality through JaCoCo-verified testing. I further optimized engineering operations by developing secure configuration loaders and building an award-winning NLP tool to identify redundant code and reduce infrastructure costs.

- Extracted notification retry logic into a standalone Java/SpringBoot microservice, with CRON-based scheduling.
- Configured H2 databases by adapting SQL code and creating data-seeding routines to mimic production workflows.
- Achieved 86% unit test coverage by implementing testing suites verified by JaCoCo.
- Developed a custom Spring Profile loader to securely map .env variables to application.yml.
- Placed 4th out of 120+ teams in an organisation-wide Hackathon by building a Python-based NLP tool using TF-IDF and Cosine Similarity to identify similar code repositories and reduce infrastructure costs.

Infrastructure Engineer
January 2025 - July 2025 (7 months)
Edinburgh, Scotland, United Kingdom

First placement:

As part of NatWest's DevSecOps Controls as Code team, I architected and automated AWS compliance solutions, partnering with developers and security stakeholders to deliver actionable dashboards and secure infrastructure at scale.

- Gained AWS Solutions Architect Associate certification.
- Automated compliance reporting for custom Config rules in 800+ accounts for a QuickSight dashboard.
- Audited 50+ custom Config rules to ensure deleted resources were properly handled.
- Investigated Security Hub findings; identified & remediated non-compliant resources and over-permissive policies.
- Built a suppressed resource tracking tool to highlight exempt resources & improve stakeholder visibility.

Graduate Software Engineer
September 2024 - December 2024 (4 months)
Edinburgh, Scotland, United Kingdom

A 27 month graduate scheme, starting with a 3 month boot camp, followed by four, six-month long placements.

I also partake in a number of non-placement work, including:
- running career fairs at universities
- being part of a professional development stream, organising events to promote certifications, inform engineers about different career paths, and setting up a project for the summer interns to complete.
- being a buddy/mentor to an software intern/graduate.

Boot Camp Focus:
▪ Front-End Development (HTML, CSS, JS)
▪ Back-End Development (Java, SpringBoot)
▪ Data Engineering (Python)
▪ DevOps & Cloud (AWS, GCP, Azure)
▪ Cyber Security

Babcock International Group
11 months

Back End Engineer
May 2024 - August 2024 (4 months)
Greater Bristol Area, United Kingdom

Second placement:

- Collaborated in an agile team on Java/SpringBoot microservices, handling tickets for bug fixes and minor enhancements.
- Gained hands-on experience with Git workflows including branching, committing, pushing, and merging.
- Actively participated in agile ceremonies, contributing to the team's iterative development process.

Embedded Engineer
October 2023 - May 2024 (8 months)
Greater Bristol Area, United Kingdom

First placement:

In a predominantly hardware-focused team, I engineered a C# microservice to translate 20-byte telemetry messages into validated, structured data for downstream modules.

- Analysed third-party technical specifications to extract and document development requirements.
- Developed high-level diagrams using Microsoft Visio to outline system architecture, which formed the foundation for subsequent software.
- Developed a navigation-data parser in C#: ingested 20-byte messages, validated checksums, extracted variables, and passed structured data downstream.
- Employed test-driven development with xUnit to achieve 100% unit-test coverage across all parsing methods and edge cases.

Graduate Software Engineer
October 2023 - October 2023 (1 month)
Greater Bristol Area, United Kingdom

I had two placements during this scheme.

I was also an active STEM Ambassador. This involved attending on-site events at schools to encourage an interest in STEM subjects among children.

Priory Group
Healthcare Assistant
January 2020 - October 2023 (3 years 10 months)
London/Birmingham

As a Healthcare Assistant in CAMHS acute wards, I provided frontline support, de-escalated high-risk situations, and ensured accurate clinical reporting.

- Patient Observations & Crisis Management: Conducted intermittent, 1:1, and 2:1 observations; de-escalated multiple high-risk situations weekly using least restrictive interventions.
- Clinical Documentation: Authored patient notes incident reports, ensuring accurate records on CareNotes and Datix systems.
- Process & Team Support: Mentored new staff on ward protocols, led crisis-intervention teams during critical incidents, and facilitated group therapy and recreational sessions to promote patient engagement.
- Soft Skills & Collaboration: Leveraged rapid decision-making, empathetic communication, and conflict-resolution abilities to support patients and liaise with families and multidisciplinary teams.

Education

University of Birmingham
MSc, Computer Science · (September 2022 - September 2023)

University of West London
BSc (Hons), Psychology · (2018 - 2021)