

Experience

American Express

Sep 2019 – Present

Engineer – NeMo (Network Modernization)

Burgess Hill, UK

- Developed a low latency data retrieval and file generation process that enabled NeMo to safely record and store up to 250,000 live transaction records every 10 minutes across data centres in 5 localities (incl. EMEA, APAC, USA)
- Optimised the above file generation process by 42% by implementing thread-safe concurrent database reading
- Configured Cassandra to persist records according to a 'NetworkTopologyStrategy' to support multi data-center deployments
- Leveraged Kafka to act as intermediary between Cassandra DB and a downstream K8s ingestor for bi-directional data replication to all datacenters
- Onboarded new payment specifications in Java enabling NeMo to process transactions in Japan and Switzerland
- Leveraged Kibana logging to analyse and correct issues in payment specifications to ensure that transactions are processed as required.
- Ascertained deep understanding of ISO8583 messages, the standard for transaction card originated interchange messaging
- Spearheaded the UI for a brand-new tool to assist in automating the specification onboarding process reducing time to market of payment specs by 30% (built in React with a Java backend and Couchbase as a datastore)

Graduate Technology Engineer – GR (Global Remittance)

- Developed of internal end-to-end testing software to monitor the state and correctness of data entering, leaving and between applications in GR
- Leveraged Java and Spring to retrieve data from various datastores (Oracle/DB2/Splunk/Kafka), significantly reducing the time taken in this aim (previously was done manually)
- Implemented process by which data was passed into dynamically generated Cucumber feature files, enabling headless testing of specific flows across the Global Remittance platform

Graduate Technology Engineer - BIP (Buyer Initiated Payments)

- Developed a new business initiative called 'Project Simple' – implemented to greatly simplify the supplier enrolment process for new BIP suppliers
- This involved
 - React development and testing using the Jest framework
 - Designing and implementing RESTful API's using Java and documenting via Swagger
 - Java testing using the Mockito framework ensuring robust code quality
 - Integrating Java code with various stored procedures

Personal Projects

(more at <https://francisnd.co.uk/projects>)

Kafka Messaging System

Kafka, Java, Spring, Maven, Docker, Kubernetes

- Created publish and subscribe messaging application
- Used custom serializers/deserializers to push chat messages to various partitions (by key) across different topics
- Deployed into in Kubernetes cluster (minikube)

Accounts Expenses System

Java, Spring Boot, JPA, Hibernate, MySQL

- Spring application allowing user to manage various banking accounts
- Used Spring Boot to perform CRUD operations for accounts in dockerised MySQL DB
- Used JPA and Hibernate to persist records

Education/Certification

Oracle Java 8 SE Programmer I

University of Leicester - MComp Computer Science (1st Class Honours)

Sep 2021

Sep 2015 – May 2019

Skills

Programming (Proficient)

Programming (Familiar)

Libraries/Platforms

Data/Databases

Java (incl. Android App Development)

JavaScript, React, Go

Cucumber/ JUnit Testing, Spring JPA, Spring Security, JSP, Docker, LARA, Kafka, Mockito, React, XLRRelease, Swagger, Openshift, Kubernetes, PGP Encryption

SQL, SQLite, NoSQL (incl. Firebase Realtime Database & Couchbase), Splunk, Kibana, Cassandra

Working Practices

Agile Methodologies (incl Scrum), Test Driven Development (TDD), Behaviour Driven Development (BDD), Git Version Control

Activities

Volunteer Grad Recruitment

Advised students of my former university to get graduate jobs

2021

Blogger

Actively maintain a technology blog

2020-21

HackSussex

Hackathon at University of Sussex

Judge (2019)