James Troy

Education

2023–2024 **Postgrad in Cyber Security Management**, *MTU Cork*.

2020–2021 **Postgrad in Data Science**, *Carlow IT*.

2019–2020 **Postgraduate Certificate in Software Design with Artificial Intelligence**, *Athlone IT*.

2012–2016 **BSc(Hons), Computer Science**, *University College Cork*.

2011–2012 **Certificate in Computer Networking**, *Cork College of Commerce*.

Experience

2022-Present **Senior ML Engineer**, Carelon Global Solutions, Limerick.

Migrate adhoc on prem infastructure to cloud, while being cloud agnostic and protecting the integrity of all migrated systems. Build claims handling platform to process the validation and trustworthiness of all new claims in real time, which helps to reduce fraud, waste, and abuse. The same platform can be used to batch review historical claims that may have been overpaid, and the company can seek reimbursement from the providers.

Took a system with very few unit tests and no documentation, and over time started writing documentation and tests. Integrated with Jenkins, Sonarqube, and Checkmarx One and Git web hooks, where all contributors had to follow certain rules and cybersecurity policies before creating and merging any pull requests.

Create a parser to convert the Teradata SQL dialect to the Snowflake dialect. Challenges included handling alias names for tables and temporary tables used for holding data in a sequence of related queries, and also required handling new schema and table names.

Most recently working on building a Generative AI and LLM platform, where data is scraped from PDF files and stored in a tokenised format in AWS S3, which is then used for training LLM's interacting with Chat GPT. The complete development and architecture cycle, including CI/CD, code quality & testing, documentation and code development. Some of the main challenges are data privacy and protection in rest and transit.

- Main programming languages are Python and Angular
- Using Splunk and DataDog for metrics and log analysis
- Data storage includes Snowflake, Mongo, Postgres, Redis, & Qdrant DB
- Tech stack includes Linux, AMQP, Kafka, Docker, Jenkins, Teraform, Open Shift, Argo CD, K8's and various AWS/GCP services

2019–2022 **Software Engineer**, Johnson Controls, Cork.

Using SCRUM methodology as part of a global remote team working on a Food Safety/Compliance platform hosted on Azure and an IoT refrigeration monitoring platform hosted on AWS.

- Using data analytics to provide customers with insight into refrigeration data. The challenges included identifying routine defrost cycles to minimise false positives of failures.
- Worked on a product that automated the validation of thermometer accuracy in refrigeration cabinets by doing analysis on temperature from an insitu probe and a calibration probe that is placed in the environment for a fixed timeframe.
- In the role of Security Champion for the team, which involves performing security reviews, static code analysis, pen testing & security improvements on the product.
- Build ELK stack to migrate from third-party logging service to save on costs
- Android development
- Main programming languages are Python, Clojure, JavaScript & Bash
- Tech stack includes Linux, HTTP, MQTT, AMQP, Web Sockets, Docker, Jenkins, Ansible, various AWS services (SNS, Lambda, IoT, ECS, ECR, S3) SQL & NoSQL
- Adopted a modular Food Safety & compliance platform hosted on Azure and using .Net framework. Includes C# backend, Angular8 frontend, and Xamarin mobile app. Challanges included sharing users and services between AWS and Azure systems and requiring a single identity and access management system. Used Keycloak as an authentication provider.
- Worked in role as security champion for dev team, responsible for implementing and enforcing Cyber security policies & procedures

2016–2019 **Software Engineer**, Zeto, Little Island, Cork.

Working within an Agile environment using the SCRUM methodology to develop readable, maintainable, and scaleable code for multiple applications and microservices, integrating third-party applications using REST, SOAP, and RPC through various APIs. Ensuring quality with unit and integration tests. Using cutting edge technologies to develop a robust IoT platform that allowed users to view real time data from various sensor networks.

- Full-stack development using Linux as the desktop environment of choice
- Build large scale application handling over 12,000 sensors and Gigabytes of data weekly
- Protocols worked with HTTP, MQTT, AMQP, Web Sockets, Modbus and GPRS
- Deployment & administration of micro-services on AWS clusters with docker
- PostgreSQL & NoSQL databases
- Minor exposure to Block-chain technology
- Support on site engineers and customers with various trouble shooting issues

2015–2016 **Junior Engineer**, Zeto, Little Island, Cork.

Joined on a Co-Op from college and became an integral part of a small start-up company fulfilling their first major contract. .

- Automated tasks that were previously labour intensive
- Commission over 10k sensors deployed in the field
- Troubleshoot issues with embedded Linux in remote locations
- Manage Zigbee networks
- First point of contact for field engineers trouble shooting on site issues

Skills

Languages	Python, Clojure, Bash, Java and minor amounts of Go, R, C++, C# , C & LaTeX
Databases	PostgreSQL, MySQL. MongoDB, Redis, Snowflake, SQLite & NoSQL
Web	HTML/CSS, JavaScript, Bootstrap, REST, SOAP & gRPC
Frameworks	Django, Flask, FastAPI, Tornado, Cordova, React JS & Angular JS, HTTP-kit
Utilities	Ansible, Git, Sublime, Inteli J, Jira & Confluence
Services	RabbitMQ, Datadog, Twilio, Circle CI, Jenkins & Heroku
AWS Cloud	Cloudfront, EC2, ECS, IoT, Lambda, RDS, DynamoDB, S3 & SNS
Data Tools	Jupyter, Pandas, NumPy, SciKit, Scrapy, Llama & BS4
Protocols	HTTP, MQTT, AMQP, Modbus, TCP/IP
Cybersecurity	NIST, ISO

Interests

- Classic Volkswagen Cars
- Reading
- Home Automation
- Hiking
- Cooking

References

On Request.