
SUMMARY

Versatile software engineer with experience in performance optimization, application development, and machine learning systems. Demonstrated success in improving software efficiency, reducing processing times, and optimizing memory usage. Experience implementing AI features, and building data analytics solutions. Strong background in software engineering best practices and algorithm implementation.

TECHNICAL SKILLS

- **Languages and Libraries:** Python, Java, Kotlin, SQL, OpenTelemetry, PyTorch, PySpark, Numpy, Pandas, Scikit-learn, Guava, C#, Bash, MATLAB, Swing
- **Technologies:** AWS, Redshift, BigQuery, PostgreSQL, Grafana, ThoughtSpot, Linux, Gradle, Maven, Git, Gitlab, Docker, Podman
- **Software Engineering:** Performance Optimization, Data Pipelines, ETLs, Testing, TDD, Refactoring, Design Patterns, Debugging, Profiling, CI/CD, Pair Programming, Statistical Analysis, Machine Learning, Computer Vision, CNNs, LLMs, Time Series, Data Visualisation, Data Preparation, Simulation, Teaching

EXPERIENCE

- **PortSwigger** Knutsford, UK
Software Engineer *July. 2023 - Present*
 - **Performance Engineering:** Led performance optimization initiative that reduced large table sorting operations from minutes to milliseconds through implementation of concurrent processing algorithms while maintaining UI responsiveness and correctness.
 - **Memory Optimization:** Redesigned HTTP request fuzzer to efficiently handle wordlists with 1M+ entries, significantly reducing memory footprint without sacrificing throughput.
 - **Data Pipelines:** Architected product analytics and telemetry data system using AWS.
 - **AI:** Development of in-product AI features including testing and evaluation framework, a model context protocol server, data pipelines, cloud services architecture, prompt engineering, multi-agent LLM systems, and RAG implementation.
 - **Burp Suite:** Building and maintaining features for industry leading penetration testing software suite. Led initiatives on the software performance team to deliver significant improvements to concurrent processing, reducing the duration of operations and memory utilization.
 - **Workshops & Coaching:** Ran workshops on technical topics such as building an LLM in PyTorch. Provided long term one on one coaching with new graduate software engineers.
- **Ocado Technology** Hatfield, UK
Software Engineer *Feb. 2021 - June. 2023*
 - **Data Manipulation:** Creating a program to generate simulation input data to meet configurable statistical distributions and targets.
 - **Simulation Fidelity:** Improving the accuracy and confidence in simulations of automation control systems. Built reporting systems, pipelines, data objects, and event schema to analyze data from production and corresponding simulations.
 - **Warehouse Automation:** Implementing algorithms for new layouts, robots, and hardware. Creating simulation experiments to test and validate the performance of the warehouse with various possible configurations.
- **LifeStyle AI** London, UK
Software Engineer *Feb. 2020 - Feb. 2021*
 - **Time Series Analysis and Prediction:** Food and fitness app with multivariate time series body weight prediction with macro nutrient and food recommendation.

EDUCATION

- **Western University** London, ON
Masters of Engineering Science in Electrical & Computer Engineering M.E.Sc *2017 - 2020*
- **Western University** London, ON
Bachelor of Engineering Science in Computer Engineering B.E.Sc *2013 - 2017*
 - **University of Western Ontario Gold Medal in Computer Engineering:** Awarded for highest grade in the graduating class.