

Riley Gavigan

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EDUCATION

Western University

BSc - Honours Specialization in Computer Science

September 2020 – April 2024

London, Ontario, Canada

GPA: 3.90/4.00 (90%)

Awards: Bennie and Shirley Bradshaw Award in Science, Western Scholars, Western Scholarship of Distinction

Relevant Coursework: Analysis of Algorithms, Artificial Intelligence, Calculus, Computer Architecture / Organization, Discrete Math, Linear Algebra, Machine Learning, Operating Systems, Probability, Statistics, Unstructured Data

EXPERIENCE

Amazon

Software Engineer Intern

May 2023 – July 2023

Toronto, Ontario, Canada

- Designed and developed a full-stack application using React, TypeScript, and Java, optimizing auditing processes and minimizing on-call software engineer efforts for a critical production service
- Enhanced service capabilities with meticulously secured APIs, integral to daily operations across multiple Supply Chain Optimization Technologies teams
- Implemented vital features (i.e. permalinks, pagination) and cached search results for superior performance
- Leveraged AWS CDK for automated, scalable deployment of AWS services (i.e. Lambda) across multiple regions
- Ensured CI/CD compliance through robust front/back-end integration testing, reducing deployment errors
- Spearheaded impactful code reviews, driving a 90% performance boost by implementing caching in a key service

Ramsey Lake Partners

Private Equity Analyst

October 2021 – April 2022

Toronto, Ontario, Canada

- Performed comprehensive analysis of financial statements and revenue sources to evaluate potential SaaS investments, generating over 200 high-quality investment opportunities for the firm
- Developed Excel VBA macros to automate the collection and analysis of financial data, reducing sourcing time

PROJECTS AND RESEARCH

E-Score Analysis (Proposal) | *Deep Learning, PyTorch, Transformers, TensorFlow*

- Proposed research to gain insight into cosine similarity results and embedding vector performance
- Analyzed differences between embeddings produced by various transformer models (i.e. ProtT5, BERT, ESM2)
- Obtaining insight from research to improve models and embedding performance for *E-score* alignment

Chess (Demo) | *C++, Nginx, EC2, VPC, SQLite*

- Automated deployment of an Nginx server running on a CDK-managed EC2 instance with SSL/TLS encryption
- Developed full-stack chess application with a Wt front-end, C++ chess game back-end, and an SQLite database
- Implemented an AI opponent match feature with multiple difficulties, integrating with the Stockfish chess engine

Campus Maps | *Java*

- Created a Swing application for navigating any provided map and its building floor plans
- Developed login, point of interest favouriting/searching, toggling layers, editing mode, and Weather API features

Pinterest Shop | *JavaScript, React, Node.js, Redux, MongoDB*

- Built a full-stack e-commerce clone application with React and Node.js, allowing users to shop for Pinterest pins
- Integrated Express.js REST APIs with MongoDB to store and manage products and user logins, carts, and orders
- Ensured seamless application flow by effectively managing HTTP requests and basket updates with Redux

TECHNICAL SKILLS

Languages: Java, TypeScript, JavaScript, C, C++, Python, R, Scheme, Bash

Libraries/Frameworks: React, Node.js, Express, PyTorch, TensorFlow, Transformers, Caffeine

Testing: Jest, React Testing Library, Mockito, Google Guice, Nightwatch.js, JUnit, TestNG, Pytest

Tools: Amazon Web Services, Microsoft Azure, MongoDB, SQLite, Docker, Git, Jupyter