Mason Leitch

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Education

University of the Fraser Valley   *Abbotsford, BC*
Bachelor of Science, Computing Science   January 2024

- GPA 3.63
- Relevant coursework includes Object Oriented Programming, Data Structures & Algorithms, Database Management, Operating Systems, Natural Language Processing, Functional & Logic Programming

Projects

MapleStory Cash Shop Upcoming Sales Viewer (Link)   GitHub

- Designed and implemented a data mining solution to extract upcoming sale data from an online game, aiding players in tracking and cataloguing over 500 future and past in-game shop items
- Developed a **Python** program to extract relevant sales information, generating an object for API deployment
- Built a **React** application to display API data, with a toggle for simplified and advanced views, loading over 500 items and images at a time in under 800ms on average, globally
- Scaled the project by migrating from Cloudflare KV workers to a NoSQL **AWS DynamoDB** for storing thousands of items and images, utilizing **AWS S3 buckets** for image storage and **AWS CloudFront** for content delivery
- Implemented **AWS Lambda** and **AWS API Gateway**, providing a robust and scalable **REST API** solution
- Achieved a user base of **10,000 unique monthly visitors** through word of mouth and social media promotion, delivering reliable data to a global audience

Gigabyte Customer Support Chat Bot   GitHub

- Collaborated with a group of 4 members to train a specialized large language model using NLP concepts
- Researched and implemented emerging NLP concepts such as **QLoRA** fine-tuning using **Python**
- Designed a streamlined workflow for fine-tuning and quantizing large language models, enhancing adaptability to various datasets
- Achieved a **75%** reduction in file size and processing time by 4-bit quantizing a 7-billion parameter model

Command Line Commands REST API   GitHub

- Developed a comprehensive **REST API** for efficient cataloging and retrieval of CLI commands
- Used **EF Core O/RM** and SQL Server for data storing and access
- Implemented Repository and Dependency Injection design patterns to encapsulate data
- Created CRUD API endpoints and tested them with Postman
- Generated documentation with Swagger and OpenAPI

Skills & Interests

Languages: Java; Python; C; JavaScript; SQL
Developer Tools: Git; Unix; Jupyter Notebooks; Postman
Libraries: pandas; React; NumPy; scikit-learn; BeautifulSoup; Selenium
Software: MS Office
Personal Interests: philosophy; weightlifting; politics; strategy games; piano