Joseph Acernese

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Education

University of Guelph
Bachelor of Computer Science
Cumulative: *87%*

Guelph, ON
September 2020 - April 2024

Skills

Languages: Python, JavaScript, Typescript, HTML/CSS Java, Ruby, C, SQL, Shell/Bash
Development Tools: Docker, Git, NPM, MongoDB, PostgreSQL, MySQL, AWS, Figma, Node.js, JIRA, Ruby on Rails, Kubernetes

Work Experience

Software Engineer Full-time
Distributive

Kingston, ON
May 2024 - Current

- Upgraded continuous integration testing framework from **Jest** to **Vitest**, in order to increase code coverage by **11%**
- Resolved various result discrepancies on a distributed AI inferencing platform, creating a report of the different sources and solutions
- Optimized Web-packed local modules for **WebAssembly** execution environments, decreasing execution time by **80%**
- Improved serialization for large binary data, decreasing data-size by **11%**, resulting in lower bandwidth usage and faster data transfer
- Trained to develop full-stack applications with **Ruby on Rails**

Software Engineer Co-op
Distributive

Kingston, ON
May 2023 - August 2023

- Parallelized an 8000 line **C** program which calculates Legendre Pairs and compiled it into **WebAssembly**, allowing for the program to be executed in parallel on **300k+ compute nodes**
- Improved visibility of the communications between a supervisor and compute nodes using life cycle events, allowing users to better understand their workers
- Debugged browser-based compute nodes which would utilize the incorrect amount of CPU cores when performing work, allowing for proper CPU utilization

Software Engineer Co-op
University Of Guelph

Guelph, ON
May 2022 - August 2022

- Developed a prepossessing pipeline to extract bond transactions from a dataset containing millions of entries, transforming it into a single data format such that it could be used to forecast financial risk in an AI model
- Researched academic papers for information on how to interpret the financial data and remove irrelevant transactions, allowing for informed data parsing
- Refactored a legacy SAS program into a modern **Python** script by translating SQL queries into equivalent **Pandas** DataFrame operations for data manipulation

Projects

Image Processing App *Python, PIL*

- Developed a **Python** application which allows users to upload, modify and save images
- Used a **Python class** to represent images, allowing for methods to manipulate or access data
- Implemented cropping, linear/non-linear filtering, and more as methods to modify images
- Utilized multiple image padding techniques as part of the image class, such that get methods could handle out of bound requests