Joseph Acernese

joseph.acernese@gmail.com · 519-378-3732 · linkedin.com/in/joseph-acernese/ · github.com/JosephAcernese

Education

University of Guelph — Guelph, ON
Bachelor of Computer Science — September 2020 - April 2024
Cumulative: *87%*

Technical Skills

Languages: Python, JavaScript, Typescript, HTML/CSS, Java, Ruby, C, SQL, Shell/Bash
Frameworks and Libraries: Node.js, Express.js, React, npm, Pytorch, Pandas, NumPy, Rails, Django
Development Tools: Git, GitHub Actions, Docker, AWS, Kubernetes, MySQL, JIRA, Figma

Work Experience

Software Engineer (Fullstack) — Kingston, ON
Distributive — May 2024 - Present

- Upgraded **continuous integration testing framework** from **Jest** to **Vitest**, in order to increase code coverage by **11%**
- Resolved result discrepancies on a distributed AI inferencing platform, creating a report of the findings and **unit tests** to ensure correct future results
- 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

Software Engineer Co-op (Fullstack) — Kingston, ON
Distributive — May 2023 - August 2023

- Designed and developed **React** components for metering and selecting compute cores for compute workloads, allowing users to manage CPU-cores
- Created **unit tests** for **CI/CD pipelines** to validate the accurate timing and payloads of events emitted by micro-services in order to expand code coverage
- Improved visibility for communications with compute nodes using **life cycle events**, allowing users to better understand their workers
- 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**

Software Engineer Co-op — Guelph, ON
University Of Guelph — 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