Duccio Rocca

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Software Engineer

Technical Skills

Languages: Python |JavaScript | Java | SQL | Linux |Typescript | C++
Technologies: Linux/Unix | Docker | Kubernetes | Node.js | React | Amazon Web Services (AWS) | MySQL |PostgreSQL |Git

Professional Experience

Incite Interactive, San Francisco, CA, **Software Engineer**   10/2024 – Present
- Designed and implemented an AWS EKS environment supporting staging, development, and production containers, improving scalability and simplifying traffic management for microservices
- Improved backend gameplay functionality by debugging critical issues and resolving architectural problems using React with Remix (TypeScript), and Python, enhancing code stability and ensuring a smoother player experience

NERSC at Lawrence Berkeley National Laboratory, Berkeley, CA, **Software Engineer Intern**   05/2024 – 09/2024
- Adapted Kubernetes for HPC environments, tailoring it to the specific requirements of the NERSC system; successfully installed and tested high-performance Kubernetes by running an inference model on a GPU node
- Built and tested three Function-as-a-Service (FaaS) tools in Python within a high-performance computing environment
- Analyzed FaaS tool performance, measuring throughput and latency for code simulating particle trajectories, providing insightful guidance to nuclear scientists on resource utilization
- Drafted comprehensive documentation for 1000+ NERSC users and presented the experiments' results to 100+ colleagues

Kulkarni Group SFSU, San Francisco, CA, **Research Study Assistant – Data Analysis**   01/2024 – 06/2024
- Utilized Python for data analysis, applying PCA and clustering techniques to uncover patterns and trends in clinical datasets
- Assisted a team of researchers in identifying common trends associated with a cerebral disease causing childhood blindness by analyzing clinical datasets and delivering detailed, actionable insights

UCorp SFSU, San Francisco, CA, **Software Engineer Intern**   08/2023 – 12/2023
- Implemented test suite for web application and introduced performance-driven indices to reduce response time by 96.8%
- Developed Feedforward Neural network with Pytorch able to classify positive cases improving accuracy by 10% over pre-existing models
- Incorporated Machine Learning models into web application enabling real-time data processing for over 300 patients

San Francisco State University, San Francisco, CA, **Graduate Teaching Associate – Data Structures (Java)**   01/2023 – 08/2023
- Planned materials and taught 45+ students facilitating activities towards increasing average pass rate from 75% to 85%
- Fostered strong relationships with students through personalized sessions, resulting in a 4.42/5 satisfaction rating

Volunteering

CodeDay, San Francisco, CA, **Mentor to underserved students**   09/2023 – Present
- Provide mentorship to students in one-to-one meetings, offer technical guidance on coding projects, and code review sessions

Technical Projects

Image Segmentation Parallelization with Perlmutter, [Link](#)   11/2023 – 12/2023
- Developed/optimized image segmentation application through parallelization in distributed systems environment using OpenMP and CUDA, ultimately achieving a speedup of 20-times speedup

Web Application to Exchange Multimedia Files, [Link](#)   09/2022 – 11/2022
- Developed full-stack application enabling users to exchange multimedia files deployed through Amazon Web Services (AWS)
- Created web pages using JavaScript, Handlebars, and Bootstrap and developed backend using Node.js/Express.js with MySQL

Education & Certifications

San Francisco University, San Francisco, CA, **Master of Science in Computer Science**	2022 – 2024
Università di Bologna, Bologna, Italy, **Alma Mater Studiorum**	2014
IBM (Coursera), **Data Analysis with Python**	06/2023
Imperial College London (Coursera), **Mathematics for ML: Linear Algebra**	06/2023