JOSEPH JIN

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Education

University of California, Berkeley	**Class of 2024**
B.S. Electrical Engineering and Computer Sciences	GPA: 3.9/4.0

Relevant Coursework:

Machine Learning, Reinforcement Learning, Artificial Intelligence, Deep Learning, Computer Vision, Advanced Algorithms, Data Structures, Optimization Models, Operating Systems, Database Systems, Quantum Computing, Computer Architecture, Computer Security, Cryptography, Discrete Math, Probability, Structure of Computer Programs, Circuit Design and Theory I/II, Physics for Engineers

Experience

Software Engineering Intern, Databricks   **May 2023 - August 2023**
- Programmed Kubernetes operator for rolling out weekly cluster updates to 2,000+ customer-facing ML-inference workloads, solving previous rollout disruption issues and reducing ~10 hours/week of engineering overhead, using Kubernetes controller-runtime SDK
- Designed and implemented blue green deployment scheme for small ML-serving instances, removing ~2 hours of downtime per week for 500+ enterprise customers during workload migrations, using Go and Kubernetes API

Undergraduate Researcher, Berkeley Artificial Intelligence Research Lab   **February 2022 - December 2022**
- Worked with Professor Trevor Darrell and PhD candidate Zhuang Liu to show how accuracy and convergence of vision models can be improved by tuning regularization strength during training (accepted to ICML 2023 arxiv.org/pdf/2303.01500.pdf)
- Designed and executed experiments, implemented training techniques for commonly used vision models with PyTorch and timm, developed tools for benchmarking, analysis, and loss-landscape visualizations with Pandas

Software Development Intern, Amazon   **May 2022 - August 2022**
- Developed low-latency pipeline reducing time required to monitor errors made by fraud detection ML models from 1 hour per 20,000 samples to under 5 seconds using Java, Typescript, Dagger, and AWS CDK
- Programmed and deployed cloud infrastructure for ML engineers in Amazon Catalogs to speed up data storage, querying, cleaning, and metric creation using AWS CloudFormation, S3, Lambda, DynamoDB, CloudWatch, and QuickSight

Software Engineering Intern, Autodesk   **May 2021 - August 2021**
- Developed anti-pirating C++ security library for Autodesk's 100+ products (with ~4 million users) using SSL libraries and simulating popular pirating techniques with unit and integration testing
- Programmed and deployed product for monitoring errors on customer-facing servers (capturing 400+ issues) with Javascript, Jenkins

Embedded Software Intern (High School), Silicon Labs   **June 2019 - August 2019**
- Programmed Embedded C software on Silicon Labs microcontrollers used by enterprise customers as design reference
- Implemented bluetooth support for 32-bit microcontrollers after discovering missing compatibility outside 8-bit systems
- Wrote and patched reference code for low-energy peripherals on 32-bit systems

Extracurriculars

Course Staff, UC Berkeley EECS Department   **August 2022 - December 2022**
- Taught subjects such as vector calculus, PCA, SVD, convex optimization, and duality in office hours for EECS 127, Berkeley's optimization algorithms course; answered questions on class forums; graded assignments; debugged projects and tests; proctored exams

Data Consultant, Tribe Capital   **February 2022 - May 2022**
- Developed end-to-end ML labeling, training and prediction pipeline for Tribe Capital (venture capital firm) to identify prospective startups; Trained ensemble learning models using Pandas, Sklearn, and NumPy, achieving a greater than 90% prediction accuracy

Product Manager, Stroll   **April 2021 - December 2021**
- Directed product development of early-stage startup enrolled in SkyDeck Batch 13 incubator program (3% acceptance rate)
- Led team of five engineers using the Agile workflow to develop frontend, backend and algorithms for safety based GPS navigation app
- Deployed beta onto iOS and Android for the city of Berkeley, acquiring 500+ active users during one week of pilot testing

Skills

Languages: C, Python, Scala, Java, Golang, Swift, Javascript, R, Matlab

Languages/Tools: PyTorch, Scikit-learn, NumPy, Pandas, Kubernetes, Knative, Docker, CVXPY, Git, AWS, MySQL, MongoDB

Frontend/Backend: React.js, React Native, Vue.js, Node.js, Apple UIKit, Selenium
- **Eta Kappa Nu Honors Society** - top 20% of Berkeley EECS undergraduate students
- **Gold Division, USACO -** top 6% of competitors in the United States