Jonathan Ouyang

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EDUCATION

University of California, Los Angeles — Los Angeles, CA
B.S. in Computer Science — Sep 2024 - Jun 2028

San Jose City College (HS Dual Enrollment) — San Jose, CA
Cumulative GPA: 4.0/4.0 — Jun 2023 - May 2024
Relevant Coursework: Multivariable Calculus, Differential Equations, Elementary Statistics

WORK EXPERIENCE

Computer Vision Intern — Jun 2024 – Present
Sighthound, Inc. — Longwood, FL

- Built internal tool utilizing Google's Vision Language Models, accelerating data labeling speed by 50%
- Engineered image augmentation code, increasing training data by up to 500% and improving model performance
- Identified accuracy variances and areas for AI model improvement through analysis, leading to a 15% accuracy increase
- Automated documentation data collection with a Python scraper, achieving a 20x efficiency increase

Researcher (Computer Vision in Athletic Training) — Apr 2023 – Jul 2024
San Jose State University, AI/DL FPGA/DSP Laboratory — San Jose, CA

- Presented research findings at a conference in New Mexico, contributing to advancements in Computer Vision for athletics
- Worked with graduate students to enhance swimmer pose estimation, achieving a 30% increase in YOLOv7 model confidence through new techniques, directly contributing to improvements in AI-powered athletic training
- Collaborated with SJSU's D1 swim team to compile and process a dataset of underwater footage of swimmers for training computer vision models, enabling more accurate and efficient analysis of swimmer performance

Laboratory Intern — Feb 2023 – Apr 2023
San Jose State University, AI/DL FPGA/DSP Laboratory

- Assisted with M.S. student's thesis comparing AMD Xilinx Kria, AMD Ryzen CPU, and NVIDIA GPU performance on over 20 deep learning CNN models, contributing to a comprehensive analysis of hardware acceleration for AI applications
- Preprocessed 13+ hours of video data (200M+ joint coordinate points) to train pose recognition models, demonstrating proficiency in model development and large-scale data processing.

LEADERSHIP & COMMUNITY

Peer Tutoring Program Manager — Oct 2020 – May 2024
Leland High School Peer Tutoring — San Jose, CA

- Managed over 100 tutors, tracked and approved contracts, and logged hours in an extensive database
- Represented Peer Tutoring program at all school-wide events, increasing program participation rate by 80%

Head Instructor — Dec 2022 – Jan 2024
Pi & World — San Jose, CA

- Created OOP and Machine Learning lessons for 50+ middle schoolers, fostering understanding of coding fundamentals
- Organized 3 ML hackathons and coding workshops with instructors and founders, providing hands-on practice for students.

Publications

- J. Ouyang, D. Trinh and C. C. Choo, "Optimization of Swim Pose Estimation and Recognition with Data Augmentation," 2024 IEEE Southwest Symposium on Image Analysis and Interpretation (SSIAI), Santa Fe, NM, USA, 2024, pp. 101-104.
- D. Trinh, J. Ouyang and C. C. Choo, "Design and Analysis of an FPGA-based CNN for Exercise Recognition," 2023 TRON Symposium (TRONSHOW), Tokyo, Japan, 2023, pp. 1-8.

ADDITIONAL

Technical Skills: Java, Javascript, Python, Swift, Data Structures & Algorithms, Machine Learning, Deep Learning, Computer Vision, Data Analysis, Git, Pandas, Numpy, Tensorflow, Keras, Selenium, Creativity, Communication

Certifications & Training: Machine Learning Specialization (Stanford, Coursera), iOS & Swift App Development (Udemy)