

# Kyle Ming Zhang

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## Skills

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**Programming Languages:** Python, C (Embedded also), C++, C#, Java, Javascript, HTML, CSS, SQL

**AI/ML/Cloud:** OpenAI, PyTorch, Tensorflow/Keras, scikit-learn, OpenCV, AWS, MySQL, Docker, Kubernetes

**Others:** Git, Linux/Unix, ReactJS

## Experience

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### Software Engineering Intern, Thales

Jan 2022 – Jun 2022

- Led a team of 4 engineer interns to investigate and integrate third-party services on test servers to enable a fluid microservice environment, enhancing overall interoperability infrastructure
- Utilized VirtualBox, Docker, Kubernetes, DAPR, and Bash scripting to execute technical solutions on four different types of platforms on test servers

### Student Researcher Fellowship, NSF

May 2021 – Sep 2021

- Collaborated closely with Siemens engineers and UCI researchers; leveraged sklearn and PyTorch library tools to implement data clustering and early stopping for two graph auto-encoder models
- Optimized and parallelized Python dataset generator to extract graphical representations from binaries, doubling speed of dataset generation

### Undergraduate Student Researcher, UCSC VAMA Lab

May 2020 – Mar 2021

- Wrote C++ testbenches for processor interfacing with Scala built RTL simulator

## Education

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### Santa Clara University, M.S. Computer Science and Engineering

2023 – Mar 2025

Coursework: Advanced Algorithms Analysis, Logic Design, Computer Architecture, Deep Learning, Brain-Computer Interface, Data Visualization, Advanced Operating Systems

### University of California, Irvine,

2020 – Dec 2022

B.S. Computer Engineering GPA: 3.83

Coursework: Compilers, Computer Networking, Computer Vision, Databases, Data Structures and Algorithms, Embedded Systems, Microcontrollers, Operating Systems, VLSI

## Projects

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### Interoperable Microservices, Thales

- Assessed multiple options for automated interoperability; coded bash scripts to install DAPR binaries onto multiple Thales servers in offline mode
- Developed a small microservice with Node.js and Python; demonstrated interoperable capabilities for three servers to Thales managers and engineers

### MINDSIGHT, UCI AICPS Lab

- Implemented Early stopping and K-means clustering to PyTorch Geometric GAE/VGAE models; improved overall training convergence speed by 14% and accuracy by 3%
- Utilized Ghidra headless analyzer tool to decompile stripped binaries; extracted and combined control-flow and function-call graphs into a singular hierarchical graph representation for model training
- Wrote a data extractor in Python to fetch and create ACFGs for binaries from the ALLSTAR database; parallelized and halved dataset creation time

### EEG Music Tempo Prediction, Personal

- Utilized Python MNE library to apply spatial filtering, temporal filtering and epoching to open source OpenMIE dataset
- Trained a 2-Layer Bidirectional-LSTM with Mean Squared Error loss function; predicted music tempi of various stimuli from EEG data with an accuracy of 63%, improving on previous research using a different approach

## Awards

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### UCSC Dean's Honor List (Fall 2018 - Spring 2020)

### UCI Dean's Honor List (Fall 2020 - Fall 2022)