Colin Kwon

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Education

University of California, Irvine — Irvine, CA
B.S Computer Science — *June. 2027*

Experience

Software Engineer Intern — Aug. 2024-Present
M.K Lending — *Brea, CA*

- Built a loan-lookup REST API/interface using TypeScript, and Node.js, reducing calculations by 4 hours per day.
- Made a rate-sheet ingestion pipeline with Python, pandas, and PostgreSQL, saving 3 hours of processing.
- Created a dashboard tracking employee's loans using React, PostgresSQL, and TypeScript for 5+ managers.

Software Engineer — Sep. 2024 - June 2025
Commit the Change — *Irvine, CA*

- Developed a full-stack volunteer tracking dashboard using React, Chakra UI, and Node.js used by 5+ managers.
- Built backend API and schemas using PostegresSQL, Axios, and TypeScript to build volunteer tracking tables.
- Optimized case manager table loading latency using React improving load times by 30 sec. compared to 40 sec.

Computer Science Teacher — May 2025 - Present
Stempia Computer Institute — *Northridge, CA*

- Taught introduction to machine learning using tensorflow, Python, and Pandas doubling class size.
- Teaching data structures and algorithms to prep for American Computer Science League in Python and Java.
- With students built an app for Congressional App Challenge in Swift and Kivy increasing our class size to 6 from 4.

Projects

Genome Sequencing | *Python, Python AI libariries* — Oct. 2025 - Dec. 2025

- Constructed a data pipeline that conjoined Humsavar and dbnsfp5.3a using DuckDB, pandas, and Python increasing learning models f1 scores by 70%.
- Contributed the data exploration of data using seaborn, pandas, and Matplotlib increasing data readability.
- Developed a neural network learner using Python, Pytorch, pandas, and Sklearn with a F1 score of roughly 70.

Smart Step | *C, PlatformIO, Arduino, ESP32 Dev Kit, Amazon Web Service* — Oct. 2025 - Dec. 2025

- Created a smart white cane detecting change in elevation and incoming objects using a T.O.S sensor, ultrasonic sensors, Arduino with testing showing an 80% accuracy.
- Developed a buzzer system for blind and deaf people using inputs from sensors with a latency of 30 sec.
- Relayed data from ESP32 to a AWS cloud for a Bluetooth voice feature with an accuracy of 90%.

Tumor Classification based Scans | *Python, Pytorch, SKlearn, Pandas, Github* — Oct. 2025 – Dec. 2025

- Created a residual neural network using Sklearn, Pytorch, and Python with an f1 score of roughly 99.
- Implemented a grid search using pandas, Matplotlib, and Pytorch optimizing the residual neural network by 30%.
- Implemented a grad cam for residual neural network using Sklearn, pytorch, and PTL reaching correlation of .67.

Reel In | *JavaScript, TypeScript, CSS, React* — Oct. 2024 – May 2025

- Developed a full-stack platform for students to find projects using JavaScript,CSS,and React used by 50 students.
- Created REST API routes for project page using PostgresSQL, React, and JavaScript increasing use by 50%.
- Implemented navbar, modals, and cards using React, CSS, and JavaScript reused by 5+ developers on the team.

Awards

Campus wide Honors Collegium at UCI
Dean's Honor List

Technical Skills

Languages: Java, Python, C/C++, SQL (Postgres), JavaScript, HTML/CSS, TypeScript, Assembly
Frameworks: React, Node.js, Next.js, Zustand, Chakra-UI, Radix-UI, Amazon Web Services
Developer Tools: Git, Visual Studio, Platform IO, PyCharm, Eclipse, Jupyter Notebook, Google Colab
Libraries: pandas, NumPy, Matplotlib, Sklearn, tensorflow, DuckDB, pyTorch