Colin Li

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EXPERIENCE

Data Engineer I — Feb. 2025 – Present
Mastercard — *Arlington, VA*
- Designing and building scalable ETL workflows in Microsoft SQL Server, integrating large volumes of data from 100's of major global brands, transforming raw data into analytics-ready datasets.
- Creating a custom fullstack Python program and VS Code extension, adopted by 30 employees, to streamline developer workflows and improve productivity

Software Engineering Intern — Jul. 2023 – Dec. 2024
Evil Geniuses — *Los Angeles, CA*
- Developed an LSTM model to evaluate 1,000 professional athletes' performances, aiding in scouting and identifying key areas for team improvement, ultimately enhancing the team's competitive edge.
- Collaborated with the partnerships team to assess the value of different locations of a sponsor's logo on our jersey by training a custom image detection model (YOLOv5) with PyTorch to measure logo viewership, and implemented post-processing to filter out false positives – resulting in an increase of $75,000 annually.
- Designed and implemented an automated data acquisition and storage framework using AWS Lambda, S3, and EC2, creating ETL pipelines that collect and store over 2 TB of data from 4 APIs in a PostgreSQL database, reducing coaching staff's manual data extraction by 10 hours a week.

Founder — Jan. 2021 – Dec. 2023
Macrohard LLC — *Chicago, IL*
- Wrote custom programs to create on-screen graphics for live-streamed broadcasts watched by over 10,000 concurrent viewers.
- Employed APIs, process memory reading, and computer vision to feature engineer 30 new statistics requested by analytic stakeholders.
- Lead a team of 7 to develop, market, and sell our products, achieving revenue of $15,000.

PROJECTS

FearlessDraft.net | *Node.JS, Express.js, MongoDB* — Sept. 2024 – Jan. 2025
- Built a full-stack game simulator using Node.js, Express.js, and MongoDB, growing to 11,000 monthly users and leading to a contract with Riot Games to develop a custom tool.

Self-driving Car | *3D Printing, Laser Cutting, OpenCV, Flask* — Sept. 2024 – Dec. 2024
- Designed, built, and programmed a self-driving RC car capable of autonomously navigating between any two points on the UCSD campus, using GPS, stereo depth cameras, LiDAR, and a NVIDIA Jetson Nano.
- Fabricated components with 3D printing and laser cutting to integrate sensors and onboard compute hardware.
- Developed custom software to handle GPS waypoint navigation, obstacle detection and avoidance via camera and LiDAR, and real-time path planning.

Explorer | *Node.JS, Express.js, React, Expo, MySQL, EJS* — Sept. 2023 – Present
- Creating a website and app using React that tracks and visualizes users travel experiences, automatically marking visited locations allowing them to uncover their journey over time.
- Engineering efficient algorithms for the MySQL database to expedite the retrieval and processing of over 30,000 datapoints on the server side, enabling instantaneous loading of location data for users.

TECHNICAL SKILLS

Languages: Python, C/C++, Java, JavaScript, HTML/CSS, SQL
Frameworks: React, Node.js, Express.js, Flask, Pillow, NumPy, Pandas, PostgreSQL, MySQL, Matplotlib, JUnit, AWS, SocketIO, YOLO, OpenCV, MongoDB, TensorFlow
Other Skills: REST APIs, Agile, Github, Data Science, Data Structures, Unit Testing, Object-Oriented Design Principles, Relational/NoSQL databases, Cloud Computing Platforms, CI/CD, Distributed Systems

EDUCATION

University of California, San Diego — San Diego, CA
B.S. Computer Engineering (3.6 GPA) — *Sept. 2021 – Dec. 2024*