

Kyle He

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EDUCATION

University of Southern California

B.S. in Computer Science

Expected Graduation: May 2026

GPA: 3.8/4.0, Major GPA: 4.0/4.0

Honors: Presidential Half-Tuition Scholarship, Dean's List

Relevant Coursework: *Computer Systems, *Algorithms, *Principles of Software Development, Data Structures, C++ Programming, Web Development, Discrete Math, Linear Algebra (* is scheduled)

EXPERIENCE

USC Viterbi School of Engineering *Course Producer*

August 2023 - Present

- Designing course content and holding office hours for **CSCI 170 (Discrete Math)**.
- Teaching topics like asymptotic notation, algorithm analysis, graphs, counting, and first-order logic.

VMware *Software Engineering Intern*

June 2023 - August 2023

- Developed a bug triage tool to automatically detect duplicate bugs using deep learning for the vSAN System Test team.
- Built and processed dataset of 1.8 million bugs from an internal Bugzilla database with **SQL** and **Pandas**.
- Designed and trained a **Siamese Neural Network** using **PyTorch** to reduce duplicate bug entries by 15%.
- Created a full-stack web tool with **AngularJS** and **Flask**.

USC GLAMOR Lab *Undergraduate Researcher*

April 2023 - Present

- Built a multi-agent training environment with **PyTorch** and **OpenAI Gym** to simulate the cooking game Overcooked.
- Developed and trained reinforcement learning models using **Stable Baselines**, devising new policy networks to improve collaboration through communication.
- Advised by: Prof. Erdem Biyik, Prof. Jesse Thomason

USC Makers *Software Engineer, Project Manager*

September 2022 - Present

- Built a robotic laser pointer that automatically points at constellations in the night sky with a team of 6 students.
- Developed a front-end website in **React**; implemented a back-end API with **Flask** and **MQTT** using **Python**.

PROJECTS

P2HB Chat Bot *Python, MongoDB*

April 2021 - May 2022

- Built a chat-based game on Discord, connecting **500,000 members** and **12,000 active users online across 6,600 servers**.
- Designed and implemented features like multiplayer tournaments, Pokémon trivia games, lottery system, and economy.
- Programmed with Python on the Discord.py framework; managed the user database on MongoDB; maintained an open-source codebase with 7,000 lines of code.
- Source Code: [link to code](#)

Unus Motus (Game) *C#, Unity, MongoDB*

February 2021

- Created a tile-based puzzle game with C# on **Unity**, featuring 14 unique levels and a leaderboard stored on **MongoDB**.
- Won 1st place statewide and 10th nationally in FBLA among ~150 games.
- Try it here: [link to game](#)

FoodMatch *Typescript, React, TailwindCSS, Python, ConvexDB*

February 2022

- Created a website using **TypeScript**, **React**, and **TailwindCSS** for a 36-hour hackathon (TreeHacks @ Stanford) that identifies a user's taste preferences with a pairwise ELO ranking system.
- Implemented an **Auth0** login system and friend management to compare tastes between users.

dbunk.ml (Fake News Chrome Extension) *JavaScript, Vue, Python, HTML/CSS, Flask*

July 2020

- Developed a Chrome extension and website using **JavaScript** and **Vue**, designed to evaluate news trustworthiness and bias.
- Trained a machine learning model on a dataset with 10 million news articles using **Tensorflow** with 94% accuracy.

TECHNICAL SKILLS

Languages: Python, Java, C++, C#, Javascript, HTML/CSS, SQL

Libraries/Frameworks: ReactJS, MongoDB, Unity, Discord.py, PyTorch, Pandas, NumPy

Developer Tools: Git, VSCode, Vercel, Google Cloud, Amazon Web Services

Software Programs: Photoshop, Final Cut Pro, After Effects, Autodesk Inventor