

Kevin Y. Cai

kevincai357@gmail.com | (469) 970-6261 | linkedin.com/in/kevincai357 | github.com/itskevbo | Dallas, Texas

PROFESSIONAL SUMMARY

Dedicated Penn State Computer Science major with a strong foundation in systems programming and software development. Proven ability to lead cross-functional teams while implementing innovative technical solutions

EDUCATION EXPERIENCE

The Pennsylvania State University

University Park, PA

Bachelor of Science in Computer Science

Expected: Spring 2026

Minor in Mathematics

GPA: 3.20

Coursework: Systems Programming, Operating Systems, Computer Architecture and Design, Data Structures and Algorithms, O.O.P. with Web-Based Applications

SKILLS

Programming: C/C++/C#, Assembly (MIPS), Verilog, Java, Python, JavaScript, TypeScript, Swift

Applications: AMD Vivado, VMWare, Git, GitHub, MATLAB, PCB Design, LaTeX, Microsoft Office

Operating Systems: UNIX, Linux (Ubuntu), Microsoft Windows, MacOS, iOS/iPadOS

Languages: English (Native), Chinese (Fluent), French (Conversational)

PROJECT EXPERIENCE

Relevant Projects: C | Verilog | MIPS Assembly | Python

Fall 2022 – Spring 2025

- *JBOD*: Engineered a robust JBOD (Just a Bunch of Disks) system on a UNIX platform, enhancing functionality with caching algorithms and networking protocols and improving system performance by 20-90%.
 - *Virtual MIPS Processor*: Designed and implemented a 5-stage pipelined MIPS processor in Verilog HDL, featuring data forwarding, hazard detection, and pipeline registers for optimized instruction execution.
 - *ptmalloc*: Developed a custom malloc implementation on a Linux system with full segregated lists, block-splitting, coalescing, and footer optimizations to achieve a 69.8% average utilization and ~30,000 Kop/s throughput.
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WORK EXPERIENCE

Penn State NittanyAI Machine Learning Club: Student Developer

Fall 2023 – Fall 2024

- Constructed projects such as a stock market prediction model that achieved prediction accuracy of 90.24% and a functional chatbot that delved into real-world problem-solving, working both solo and in teams of 2-4.

TEDxPSU: Developer

Fall 2022 – Spring 2023

- Selected to work with a team of 12 other TEDx members as a part of the organization's technology team
 - Utilized Angular and TypeScript Full-Stack development for the development of the organization's website.
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LEADERSHIP EXPERIENCE

Penn State NittanyAI Leadership Camp: Team Leader

Fall 2023 – Fall 2024

- Represented a team of 8 students in pitching the startup concept "SafeSail" to a panel of company representatives, securing a top position and gaining project management experience in the process.
- Engaged in intensive leadership development programs while exploring the entrepreneurial facets of AI