Andrew Xiong

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PROFESSIONAL SUMMARY

Computer Engineering Student with specialization in computer architecture, computer vision, app dev, and artificial intelligence/machine learning.

SKILLS

Python | C++ | GitHub | System Verilog | AI/ML| Management |Vision| Networking| App Dev| AI Agents

EXPERIENCE

PC Building Agent **December 2025-PRESENT**

- Built an agentic AI system that converts natural-language user input constraints into optimized, compatibility-checked PC builds using multi-stage LLM planning, validation, and self-critique
- Designed explicit data contracts and deterministic validation logic (power, compatibility, form factor) to constrain generative outputs and ensure correctness

Smart Home System **September 2025-PRESENT**

- Designed an edge-cloud system architecture integrating embedded devices, backend services, and a web frontend using using HTTP, WebSockets, REST API.
- Fine-tuned a facial recognition model and person reID pipeline to classify POI using YOLO and COCO on Raspberry Pi 5 AI camera.

Proj-Happy-Cows **November 2025**

- Lead a team of 6 to implement new features for the proj-happy-cows legacy codebase.
- Redesigned an admin UI/UX table-based feature to make it more user-friendly.
- Wrote tests and fixed flaky mutation test errors on the main branch in github.

Text-to-3D Asset Generation Pipeline for Game Development **October 2025-PRESENT**

- Architected a modular inference workflow with ComfyUI that turns text prompts into images and then reconstructs and texturizes 3D game assets using Stable Diffusion and Hunyuan3D.

Medical Image Classification Models **June 2024-September 2024**

- Trained classification model to detect brain tumors on MRIs with 100% accuracy and precision.
- Created a pipeline that takes both pathological and ultrasound images as input for classification
- Tested different backbone neural network models such as ResNet, DenseNet, and EfficientNet
- Utilized attention masks on ultrasound images for a more robust model.

FPGA Ford Thunderbird Taillight controller **May 2024**

- Designed a Moore machine using Verilog to imitate the taillights of the Ford Thunderbird.
- Implemented turn signals, brake, hazard, and running lights with signal precedence.
- Tested and implemented the circuit with an FPGA on a breadboard.

Scripting Language in C++ **September 2023-December 2023**

- Led a team of 4 to build a robust scripting language in C++.
- Built a lexer and a parser to tokenize and parse s expressions and infix expressions with ASTs.
- Built a multidimensional AST to handle conditionals, arrays, functions, and statements.

Student Manager at Carrillo Dining Commons **September 2022-November 2025**

- Managed personnel to ensure smooth operations during meal hours.

EDUCATION

B.S., Computer Engineering **September 2022 - PRESENT**

UC Santa Barbara

AWARDS/RECOGNITIONS/VOLUNTEER WORK

- UCSB 2022-2023 Dean’s Honors
- Summer 2023 Servant Leadership Training