Kevin Kang

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EDUCATION

University of California, San Diego GPA: 3.82
Bachelor of Science in Computer Engineering **Expected June 2024**

- Coursework: Advanced Data Structures, Analysis of Algorithms, Computer Architecture, Computer Science Research, Object-Oriented Design, Computer Graphics, Software Engineering

SKILLS

(Proficient) **C, C++, Python, Bash, Git, Airtable**
(Prior Experience) **Java, JavaScript, TypeScript, HTML, CSS**

EXPERIENCE

Center for Visual Computing La Jolla, CA
Undergraduate Researcher September 2022 – Present

- Research Proposal: "Analysis of Real-life Inverse Rendering Tasks with a Physically-based Framework"
- Building off the Mitsuba 3 Renderer to develop a physically-based inverse rendering pipeline as a system for studying scene reconstruction characteristics in realistic contexts.
- Advised by Professors Ravi Ramamoorthi and Tzu-Mao Li.

Machyna, Inc. Encinitas, CA
Software Engineer Intern June 2022 – August 2022

- Elaborated on the smart shopping cart state machine model by designing an item identification algorithm in C++, differentiating signal (item) from noise 4.5 times faster than previous methods.
- Built a testing environment and visualization tools for AI-driven shopping and checkout solutions.
- Developed a backtesting script using Python to simulate shopping cart behavior with retroactive data.

Tech4Good Lab Santa Cruz, CA
Undergraduate Research Assistant: Front End Developer March 2022 – June 2022

- Led a webpage redesign and developed front-end components of a web application using HTML, SCSS, and TypeScript on an Angular/NgRx/Firebase stack.

UCSC Baskin School of Engineering Santa Cruz, CA
Computer Science and Engineering Tutor March 2022 – June 2022

- Supervised Computer Systems and Assembly Language labs and helped debug RISC-V programs.
- Emphasized the basics of concepts in data structures, digital logic, and computer architecture.

PROJECTS

Geometry Optimizations for Inverse Rendering | *Python*

- Designed a library for the Mitsuba 3 renderer that solves irregular reconstructions of complex shapes.
- Integrated concepts from Large Steps in Inverse Rendering of Geometry research paper published in ACM Transactions on Graphics.

Database with Huffman Compression | *C++, Airtable*

- Designed a high performance database system with create, read, update, and delete operations.
- Wrote compress and decompress programs to efficiently secure 2GB of data from a CRM Airtable base.

Wordle Solver Bot | *C*

- Implemented a heuristic technique to search for optimal guesses from a bank of 12,000+ words.