COLLIN JUNG

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EDUCATION

Stanford University
Stanford, CA • Class of 2025
GPA: 3.77
M.S. Computer Science (Human Computer Interaction)
B.S. Computer Science (Artificial Intelligence)

TECHNICAL SKILLS

Languages:
- Python
- Java
- Javascript
- C/C++
- Wolfram Language
- HTML/CSS

Software:
- Blender
- Arduino
- Unity
- Mathematica
- Microsoft Office

OS:
- Windows, Mac, Linux

SOFT SKILLS

- Coding and debugging
- Software Development Life Cycle (SDLC)
- Source code review
- Algorithms and data structures

PROFESSIONAL SUMMARY

Motivated and hardworking student with over 5 years of industry experience pursuing a BS in computer science and a coterminal MS in computer science at Stanford University

RELEVANT COURSEWORK

Stanford University

- **Systems/Security:** Computer Organization and Systems (C) | Operating Systems Principles (C++) | Intro to Cryptography | Intro to Cybersecurity (JS)
- **Depth:** Design and Analysis of Algorithms | Web Programming Fundamentals (Full Stack) | Computer Graphics and Imaging (Blender) | VR Design and Development (Unity, C#)
- **AI/ML:** Natural Language Understanding (Python) | From Languages to Information (Python)
- **Math:** Mathematical Foundations of Computing | Computational Logic | Linear Algebra, Multivariable Calculus, and Modern Applications | Probability for Computer Scientists

WORK HISTORY

Wolfram Research - Software Developer Intern
Champaign, IL • 05/2018 - 08/2023

- Worked with stable diffusion models and 3D image generators from text prompts
- **Extended functionality** of the Wolfram Language working closely with Kernel developers
- Prototyped **physics simulation of rigid-bodies** by combining the Wolfram language with external game physics engines
- Contributed to the **Wolfram Physics AR/VR applications** project with UI/UX design
- Analyzed and created **visualizations for graph data** in the Wolfram Data Repository
- Established compatibility between the Mathematica interface and the Unity game engine

PROJECTS

Automated Code Review Model - *Spring 2023*

- Developed a code review model using **GPT-3.5-Turbo** and a **DSP framework** with custom prompt templates to generate specific comments and revised code from a code snippet.

"Ensemble" Website - *Spring 2023*

- Created a website using **Full Stack Development** that allows users to find interest groups based on tags. Project created with **Javascript, Node, Express**, and a **MongoDB** database.

Movie Recommending Chat Bot - *Winter 2023*

- Created a **Natural Language Processing** chatbot that stores user ratings of movies and uses item-item collaborative filtering to recommend similar movies.

Encrypted Chat Client - *Winter 2023*

- Implemented an encrypted chat client in **Javascript** using the Double Ratchet Algorithm that ensures forward secrecy and break-in recovery.

Operating System Shell - *Spring 2022*

- Developed sophisticated shell in **C++** that utilizes multiprocessing using fork, execvp, and waitpid system calls to handle multiple executable commands.

Heap Allocator - *Winter 2022*

- Implemented efficient implicit and explicit heap allocators in **C++** with malloc, realloc, and free functionality. Used gdb and Valgrind to track and manage allocated memory blocks.