ELISE SONG
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OBJECTIVE

Computer Science student at Cornell University Class of 2024. Planning on pursuing a Masters Degree in Computer Engineering. My special interests are computer architecture, operating systems, embedded systems, software engineering, and natural language processing.

EDUCATION

Cornell University, Ithaca, NY — Expected Graduation: May 2024
Bachelors Computer Science (GPA: 3.8 / Major GPA: 3.9)

- Relevant Coursework: Embedded Operating Systems, Computer Architecture, Operating Systems & Practicum, Embedded Systems, Digital Logic & Computer Organization, Advanced Data Structures & Functional Programming, Honors Object Oriented Design & Data Structures, Language & Info, Conversations & Info, Intro Analysis of Algorithms, Intro Computer Graphics, Intro to Computer Vision.

WORK EXPERIENCE

Cornell University Dept. of Electrical Engineering, Ithaca, NY — Aug 2023-Present
Teaching Assistant

- ECE 4750 Computer Architecture.
- Instructed students on finite state machine/pipelined processor & cache microarchitecture, memory virtualization, superscalar & out-of-order execution, register renaming, memory disambiguation, branch prediction, and other advanced techniques.

Stealth Mode Startup, Remote — June 2023-Aug 2023
Algorithm and React Developer

- Implemented algorithm to score similarity between two college majors using NLP info retrieval methods.
- Designed & implemented UI & components in React & Tailwind CSS for social network application.

Intel Corporation, Hillsboro, Oregon — May 2022-Aug 2022
Post Validation Engineering Intern

- Automated DRAM register value lookup to streamline and accelerate the memory validation process.
- Developed program to read and decode DRAM (DDR5/LPDDR5) registers using the JEDEC standard.
- Hands on hardware validation and programming of DRAM on future client platforms.

Cornell University Dept. of Computer Science, Ithaca, NY — Aug 2021-Dec 2021
Teaching Assistant

- CS2112 Honors Object Oriented Design and Data Structures.
- Instructed students on object-oriented programming design, specifications & invariants, recursion, concurrent programming, data structures, sorting & graph algorithms, asymptotic complexity, simple algorithm analysis, and Java programming.

SKILLS

Programming Languages: C++, C, Python, Java, Verilog, Assembly, OCaml, MATLAB
Platforms: UNIX/Linux, MacOS, Windows
Tools: Git, Vim, VS Code, NumPy, React

RESEARCH & PROJECTS

+/- Sarcasm Transformer: Researched the inclusionary/exclusionary functions of irony in Reddit threads. Implemented an NLP transformer that computes the positive or negative effects of a sarcastic comment using the VADER Sentiment Analysis Engine. Determined that tight-knit subreddits express more positive, inclusionary irony while large subreddits spanning multiple groups contain negative, exclusionary irony.
Pi Latte Machine: Built an embedded system that creates a customized latte by dispensing correct ratios of ingredients (coffee, matcha, cocoa, sugar, hot water & milk), powered by a Raspberry Pi 4 running on Debian Linux and Pygame GUI. Website.
Multicore System: Developed a complete multicore system in Verilog capable of running simple parallel applications at the register-transfer level. Implemented a variable-latency multiplier, pipelined processor, write-back write-allocate two-way associative cache, and ring network. Tested system performance on a multi-threaded quicksort algorithm in C compiled to Assembly.
FindMyFood: Developed app that recommends nearby restaurant dishes based on qualitative descriptions of a craving. Utilized NLP info retrieval methods: cosine similarity, edit-distance, term frequency-inverse document frequency (TF-IDF).

ACTIVITIES & AWARDS

Dean's List, Spring 2022-Fall 2023
Cornell University Low Rise Community: Resident Advisor, Aug 2022-May 2023
The Cornell Daily Sun: Editorial Board, Web Editor Lead, Feb 2021-May 2023
Women in Computing at Cornell: Technical Committee, Spring 2022
Certified Piano Instructor: Oregon Music Teachers Association Level 10
National Le Grand Concours: Placed 10th in the US, June 2017
Portland Audubon Society: Nature Guide, 2017-2019