Dane Engman

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EDUCATION

Carnegie Mellon University, Pittsburgh, PA   **December 2024**
Bachelor of Science in Electrical and Computer Engineering, GPA: 4.0

Selected Coursework

Structure and Design of Digital Systems (current); Computer Systems; Signals and Systems (current); Electronic Devices and Analog Circuits; 3D Calculus (current); Matrices; Probability Theory and Random Processes

CMU Dean's List   **Fall 2021, Spring 2022, Fall 2022**

WORK EXPERIENCE

Teaching Assistant – 18-213 Computer Systems, Carnegie Mellon University   **January 2023 – Present**
- Lead recitations, held office hours, graded student work

Teaching Assistant – 15-112 Fundamentals of Programming, Carnegie Mellon University   **August 2022 – December 2022**
- Co-taught recitation of 30 students, graded student work, held office hours
- Developed supplemental recitations on I2C communication and advanced Tkinter features

Lead Instructor – Youth Tech Inc., Wheaton/Aurora, IL   **June 2022 – August 2022**
- Taught 16 classes of 12 students
- Subjects including animation, programming, and game design

EXTRACURRICULAR ACTIVITIES/PROJECTS

FeeshMonitor   **Winter 2023**
- Raspberry Pi powered fish tank monitor with UART temperature probe and analog pH probe, serial communication with Arduino, logging to CSV files, graphing with Pandas, and 120V fused outlet control with relays to control heater
- Asynchronous multi process program with queues and mutexes to avoid IO delay

Proxy Server   **Fall 2022**
- C server that accepted requests from clients and forwards responses from server
- Handles concurrent requests with threads and mutexes and caches responses

Dynamic Memory Allocator   **Fall 2022**
- Segregated explicit list memory allocator written in C
- Implemented footerless allocated blocks and 16 byte blocks

Camera Intervalometer   **Spring 2022-Fall 2022**
- Arduino controlled device which controls shutter and focusing of a Sony mirrorless camera, uses I2C buttons and display for control
- Self-made I2C library written in C++ using Arduino Wire library
- Used to make time lapse movie: The World in Motion

Institute of Electrical and Electronics Engineering   **2022 – Present**
- Student association for professional electrical engineering society

Carnegie Mellon Solar Racing Team   **2022 – Present**
- Improved sensor monitoring system for solar powered racing boat, researched replacement batteries

SKILLS

Technical Skills
- Debuggers (GDB, Valgrind), git, Linux, soldering, use of multimeters and oscilloscopes, CAD (Solidworks, Inventor, and Fusion), Google Suite

Programming Languages
- C, Python, SystemVerilog, Assembly, Java, C++