WESTON CADENA

Westoncadena@tamu.edu • (713) 829-6163 • LinkedIn.com/in/westoncadena • Github.com/westoncadena

EDUCATION

Texas A&M University	Master of Computer Science	May 2025
Texas A&M University	Bachelor of Science in Computer Engineering	May 2024
	Minor: Mathematics	
	Overall GPA: 3.97	

Master's Course Work: Deep Learning, Parallel Computing, Machine Learning, Computer Architecture

EXPERIENCE

Lawrence Livermore National Laboratory - Computing Graduate Student Intern*; Livermore*, CA May 2024 - August 2024
- Implemented a tracing tool for YGM, a pseudo-asynchronous communication library built on top of MPI in C++
- Analyzed JSON traces with Perfetto to aid developers and users in understanding how to improve YGM code
- Programmed an MPI script to view real-time statistics on an actively running YGM job distributed on a supercomputer

Los Alamos National Laboratory - *HPC-Design Student Intern;* Remote August 2023 - May 2024
- Automated the image-building pipeline to build deployable images for clusters using GitLab's CI/CD, ansible, and image containers
- Restructured a Python script that built container images in layers using Buildah with the Python subprocess module
- Reduced the time and size of an image build by developing a dependency chain only to rebuild parts affected by a push to GitLab

Los Alamos National Laboratory - *Supercomputing Institute Intern;* Los Alamos, NM May 2023 - August 2023
- Built, configured, and operated a high-performance cluster with 10 compute nodes starting from scratch
- Investigated eBPF with a three-member team to show it is a viable tool for monitoring filesystems, CPU usage, and networks at the lab
- Presented an oral and poster presentation displaying our findings to the High-Performance Computing department

Texas A&M Computer Science Department – *Peer Teacher;* College Station, TX August 2022 - May 2023
- Mentored 50 undergraduate students in C++ programming labs, covering data structures, algorithms, and computer organization
- Improved students' skills in two 20-student introductory programming labs taught in Python
- Held office hours for students who needed additional help completing assignments or clarification of in-class topics

PROJECTS

ECG Classification and Text Diagnosis – *University Research* Fall 2024 - Present
- Developing a classification model in Python for patient diagnosis based on ECG signals
- Combining the MIMIC-III Waveform dataset with the patient's clinical notes to associate a text diagnosis with each waveform
- Testing various signal processing techniques, including wavelets and Daubechies filters to engineer and extract features

TALON: Handheld SOS Device – *University Capstone* Spring 2024
- Directed a team of six in creating a LoRa radio frequency, mesh-based SOS protocol for National Park Services
- Developed a web client using React and TypeScript to display real-time locations and messages from hikers
- Achieved a 15-mile range between an ESP32 configured hand-held device and the base station which powered the web client

pGarfield++: Simulation Toolkit – *Study Abroad; Doha, Qatar* Summer 2022
- Updated the C++ detector simulation toolkit, Garfield++, to allow full use of the library with MPI
- Attained a speedup of 13x when running Garfield++ gas electron magnifier physics simulation in parallel
- Acquired a unique skillset by conducting research abroad, navigating diverse team dynamics, and adapting to new environments

LEADERSHIP EXPERIENCE AND ACTIVITIES

One Army Men's Organization- *Treasurer* Fall 2022 - Spring 2023
- Elected to budget over $56,000 for the organization to ensure proper spending for One Army programs
- Managed budgets using Excel and financial planning strategies, resulting in savings of over $8,000 and enhanced financial stability

HONORS

- Red Bull Can You Make It Champion Spring 2024
- N.K. and Veena Anand Dean's Scholar Spring 2022
- Computer Engineering Honors Spring 2021 – Fall 2024

ADDITIONAL INFORMATION

Programming Languages: Proficient in C++ and Python, Competent in JavaScript, TypeScript, HTML, SQL
Technical Skills: Linux, Git, MPI, NumPy, Verilog, Circuit Design, OpenGL, Microprocessor Design, React, Buildah
Interests: High Performance Computing, Machine Learning Applications, Microcontrollers, Marathons
Work Eligibility: Eligible to work in the U.S. with no restrictions