GEFFEN COOPER

Email: geffencooper@gmail.com — Website: `geffen-cooper.github.io` — GitHub: geffencooper

EDUCATION

University of California, Santa Barbara

B.S. in Computer Engineering, GPA: 3.97 *June 2022*

- Regents Scholar and Engineering Honors College
- Glenn Culler Scholarship (Computer Engineering Scholarship, 2020)
- Member of Tau Beta Pi Engineering Honor Society

Applying for PhD Programs for Fall 2022

RESEARCH EXPERIENCE

USC SURE, Institute for Creative Technologies June 2021 - September 2021

Undergraduate Research, REU *University of Southern California (Remote)*

- Worked under Professor Mohammad Soleymani in the Intelligent Human Perception Lab
- Developed a multimodal deep learning model to assess psychomotor retardation from audio-visual recordings of clinical interviews

UCSB ECE 196 January 2021 - April 2021

Undergraduate Research, Course *University of California, Santa Barabara (Remote)*

- Worked under Professor B.S. Manjunath and Professor Yogananda Isukapalli on independent research
- Explored face detection at the edge using the MAX78000 microcontroller that uses a CNN accelerator
- Submitted the project as an undergraduate paper to ITC and will be presenting it in October 2021

WORK EXPERIENCE

Brain Corp June 2020 - September 2020

Embedded Software Intern, Firmware Team *San Diego, CA (Remote)*

- Reverse engineered the firmware update tool of the vehicle controller used in autonomous floor scrubbing robots
- Created a robust Linux based C/C++ application using socketCAN to update the controller's firmware
- Expanded the app to a commandline tool that can read/write parameters and view live data from the controller

FLIR Systems April 2019 - August 2019

Software Intern, Security Team *Goleta, CA*

- Wrote bash scripts for running diagnostics, debugging, and configuring thermal cameras
- Created a python GUI to help manufacturing technicians with the flashing and calibration procedure for radars

RECENT PROJECTS (SEE WEBSITE AT THE TOP)

Neural Network from Scratch November 2020 - January 2021

- Programmed a set of python classes for building neural networks *using only NumPy*

Chromatic Tuner, ECE 153A October 2020 - December 2020

- Built a chromatic tuner that uses an FFT on microphone samples to detect semitones in real-time

Tracking Robot August 2020 - December 2020

- Built a robot with a Raspberry Pi and STM32 that uses ROS and openCV to follow moving objects

ORGANIZATIONS

UCSB IEEE Student Branch

Project Manager & Hardware Project Lead (2020-2021),Software Project Lead (2019-2020)

- Taught students at UCSB how to build a software/hardware projects from scratch and created weekly lessons

SKILLS

C, C++, Python, Bash, Git, PyTorch

RELEVANT COURSEWORK

Completed: Image Processing, Signal Analysis, Computer Vision, Deep Learning, Computer Architecture, Operating Systems, Data Structures and Algorithms, Embedded Systems

In Progress: Digital Signal Processing, Optimization, Hardware Architecture & Algorithm Co-design for AI