Cameron Rogero

Contact Information

E-mail
cgrogero@gmail.com

Website
cameronrogero.com

Phone
(209) 712-8786

LinkedIn
linkedin.com/in/cameronrogero

Software/Programming

MATLAB
Python
C/C++
Swift
Autodesk EAGLE CAD
Assembly
SystemVerilog
Arduino
Cadence Virtuoso
Digilent
Linux
LTSPICE
ModelSim
Microsoft Office
Simulink
Quartus

Relevant Coursework

Autonomous Robotics
Circuits
Computer Network Security
Control Systems
Data Structures
Digital Logic Design
Digital Signal Processing
Electronics
Human/Brain-Machine Interface
Microcontrollers
VLSI Design

Foreign Languages

German (Conversational)
Spanish (Beginner)

Education

Master of Science: Engineering Science - Electrical and Computer Engineering
University of the Pacific – Stockton, CA (August 2020 - May 2022)

- **4.00 GPA** - Awarded Graduate Assistantship

Post-Baccalaureate
University of California, Davis – Davis, CA (January 2019 - June 2020)

- **3.66 GPA** - 58 units of electrical and computer engineering graduate school prerequisites

Bachelor of Science: Neurobiology, Physiology, and Behavior
University of California, Davis – Davis, CA (September 2014 - September 2018)

- **3.72 GPA** - Graduated with Honors; Minor in Managerial Economics
- Dean's List: Fall 2014, Winter 2015, Spring 2015, Fall 2015, Fall 2017

Work History

Graduate Assistantship
University of the Pacific – Stockton, CA (August 2020 - May 2022)

- Assist professors with the administration and management of multiple classes per semester
- Teach undergraduate electrical and computer engineering students during weekly office hours
- Correct assignments and aid in engineering-related laboratories

Projects

Power System PCB - *Spring 2022 (Independent)* - *Link*

- Power system PCB designed with EAGLE and simulated in LTSPICE: logic gates for motor direction and PWM signals, NPN totem-pole MOSFET driver to step-up voltage, RC delay shoot-through protection for H-bridges, 5V linear regulator for powering conveyor belt motor and embedded system, via-stitching for high current traces, fuses for circuit protection
- Control systems designed with MATLAB/Simulink to intercept objects at any distance or angle

Autonomous Robot - *Spring 2022*

- Sensor integration with quadrature encoder for wheel speed, IR/bump for object avoidance
- Integrated on TI microcontroller and Raspberry Pi with UART communication, PWM motor control, interrupts, filtering/localization/mapping algorithms, ADC, GPTMs, GPIO pins

Radio-Controlled Vehicle - *Summer 2021 (Independent)* - *Link*

- Components included L298N motor driver, Arduino Uno/Nano, NRF24L01 transceiver, DC motors, resistors, capacitors, diodes, power switches, push buttons, breadboards, soldered wires
- Transmitter and receiver software used byte encoding to allow for multiple design features

iOS Application with Simple AI - *Summer 2021 (Independent)* - *Link*

- Coded in Swift and built on Xcode; details were stored through object-oriented programming
- Ability for user to play a card game with one or two automated CPU players
- Simple AI was capable of deciding best possible moves through various complex algorithms

ALU Component Design and Verification - *Spring 2021* - *Link*

- Designed an up-counter using D flip-flops and basic logic gates with Cadence Virtuoso/Spectre
- Delays and layout size were limiting factors; design process consisted of floorplanning, module and cell placement, metal contacting, and optimizing transistors through boolean equations

MP3 Player - *Fall 2020* - *Link*

- Created with a TM4C microcontroller and breadboard using various hardware: microSD card, DAC, LCD, keypad, audio amplifier; data lines included I2C, SPI, UART, and USB
- Software created in C and assembly language utilizing registers, interrupts, timers, GPIO pins

AC to DC Converter with Multi-Stage Amplifier - *Fall 2020* - *Link*

- Circuitry included a bridge rectifier, ripple filter, zener voltage regulator, and CC-CE amplifier
- Simulated on LTSpice and measured for efficiency using Digilent and MATLAB
- Constructed on a breadboard with various resistors, capacitors, diodes, and transistors

Image Embedder Application - *Summer 2019* - *Link*

- Software and GUI created in MATLAB; ability for one or more hidden images to be embedded within another image and then later extracted by multiple different functions and techniques
- Steganography performed by manipulating the 3D RGB layers, which stored an 8-bit color value, through several algorithms to format, filter, encode, and decode the images