MIHIR SHEVGAONKAR

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PROFILE

Website: www.mihir.space
Github: github.com/mihirus

UC Santa Barbara 2021
B.S. Electrical Engineering
3.65

COURSEWORK

Analog Circuit Design
Computer Vision
Differential Equations
Electromagnetism
Linear Algebra
Digital Design
Probability & Statistics
Signals & Systems
Semiconductor Devices

HARDWARE

PCB Design
Arduino, Raspberry Pi
Battery Design
3D Printing, Machining
Composites
AVR & STM microcontrollers

SOFTWARE

Python(numpy, keras, opencv, pytest, logging, multithreading)
Embedded C(including I2C, SPI)
Jupyter Notebook
Git, Makefiles, Bash
Altium Designer
Kicad
Solidworks
LaTEX

TEAM EXPERIENCE

Ionic Skies

Capstone Team Lead
03/2020-Present

- Started interdisciplinary capstone team with goal of building solid state aircraft powered by ionic propulsion, with thruster, power converter, and airframe subsystems
- Grew team to 14 students, tightly managed iterative prototyping despite coronavirus
- Procured $12,000 in funding with help of professors

Tesla

Thermal Integration Intern
06/2020 - 09/2020

- Built up software infrastructure for automated testing and validation of semi-truck thermal systems using thermal buck
- Designed automated thermal buck self test with component level and system level parts to verify that all systems are operational before more complex tests
- Used Jenkins, CAN+UDS protocols, SCPI, interlock circuits, high power cabling, and various python libraries - pyserial, logging, pytest, threading, internal libs

CTRL-Labs

Hardware Engineering Intern
06/2019 - 09/2019

- Worked on analog front-end(AFE) of electromyography armband that decodes physical muscle movement from signals travelling through neurons in the arm
- Proposed and executed AFE biasing voltage changes that save space, power, and complexity - tested by cutting PCB traces and soldering jumpers, extensively verified and analyzed results in Jupyter Notebook - change will make its way into product
- Performed oversampling experiments to verify SNR improvements, uncovered and diagnosed SPI timing issues that were exacerbated at higher sampling rates

RPL at UCSB

Web Developer & Finance Lead
10/2018 - 06/2019

UCSB Hyperloop

Power Systems Engineer
10/2017 - 07/2018

PERSONAL PROJECTS

Ball Balancing Robot (BB-9)

- Robot that balances on a spherical wheel - a soccer ball
- Omni-directional wheel rotation
- Acc+gyro sensor fusion thru complimentary filter, and PID controller achieves robust balance
- Learned PCB design, reflow soldering, Kalman filtering, Lagrangian mechanics, and wrote I2C driver along the way

And More

- Bamboo bike
- Weight sensing electric longboard
- 3-axis CNC router
- Built my personal website **www.mihir.space** using HTML, CSS, and Bootstrap; features pictures and videos of all my projects!