GARIMA PRABHAKAR

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EDUCATION

University of California, Berkeley   **Expected Graduation: May 2025**

Bachelor of Mechanical Engineering and Physics

EXPERIENCE

Embedded Systems Lead   Aug 2023 - Present
Space Technology Enterprise at Cal   *UC Berkeley*

- Lead 3 electronics engineers for designing the rover's electronics subsystems (including comms, sensors, and power). Designed programmable power distribution panel handling up to 50A current.

Engineering Thermodynamics Teachers Assistant   July 2023 - Present
University of California, Berkeley   *UC Berkeley*

- Reader: position typically reserved for grad students. Responsible for grading, tutoring, contributing to course development, PrairieLearn web development, and providing office hours.

SULI Summer Intern and Student Researcher   June 2022 - Present
Lawrence Berkeley National Laboratory   *Department of Energy*

- Implementing Graph Neural Network and other machine learning solutions to constrain microlensing transients from light curves (time series) for black hole detection.
- Implemented a robust pipline with Crowdsource for forced photometry of DECam astronomy time series data to interface with the DECam data pipeline.
- Implemented a pipeline to constrain 17 variable star candidates from a subset of 370 DECam light curves using Jayasingh et al. 2018's cuts. Poster talk at SULI Poster session.

Electronics Student Researcher   Feb 2022 - Aug 2023
Space Sciences Laboratory   *UC Berkeley*

- Project: Implementing the Ohmpi soil resistivity IOT meter for 3D subsurface mapping using Electrical Resistivity Tomography to aid ground loss calculation for the MIST radio antenna.
- Constructed instrument schematics, designed calibrations/error analyses, soldered, and tested four multiplexer boards for autonomous control of 64 soil electrodes. Implemented main measurement board for four-point resistivity measurement of soil. Responsible for programming/implementation of API for autonomous control of OhmPi device.
- Researched a new Bayesian inference appraoch to Vertical Electrical Sounding data analysis with Ultranest package for MIST soil conductivity estimates. Implemented BERT and PyGIMLI soil analysis packages for 3D ERT imaging.
- Poster pop-up presentation at 2021 Global 21cm Workshop, coauthor for 2 group research papers on the MIST instrument.

Propulsion Engineer   Aug 2023 - Present
Cal Space and Rocketry Club   *UC Berkeley*

- Designed and am machining a custom valve key for efficiently cotrolling the Liquid Oxygen Tank ball valve on Solidworks. Investigating regenerative cooling solutions for ALULA liquid fuel rocket.

SKILLS

Proficient Technical Skills: Python, HTML/CSS, Java, MATLAB, Mathematica, Solidworks, KiCAD, electronics, bash, LaTeX, soldering, Android App development, Linux and Mac OS, Raspbian OS, Microsoft/Drive platforms.