# Navadeep Ganesh U

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## Education

**M S Ramaiah University of Applied Sciences** — Bengaluru, KA
*B.Tech., Electrical and Electronics Engineering (Grade: 8.71/10)* — *2019 – 2023*

## Experience

**Project Intern** — (Jun'22 – Dec'22)
*Bosch India*

- As a part of battery team, I worked on designing cell model, fitting it with the test data and validation.
- Developed cell level State of Charge(SoC) estimation algorithm applying extended Kalman filter method.

**Embedded Systems Intern** — (Aug'20 – Nov'21)
*Praan Technologies*

- Designed full-stack embedded hardware board including Connectivity, Processing, Sensor and Power units.
- Developed software libraries for integrating Weather API and Battery State-of-Charge monitoring features.

## Projects

**DigiStep** | *PSoC4200, Digital Logic, Counters, Motor Control* [link] (Feb'21)

- Designed a Stepper Motor Controller using configurable digital blocks in PSoC4200 device.
- Implemented a Johnson Counter for generating motor coil activation sequence.

**OpenSource Projects** | *MicroPython, Battery Systems, FPGA* (Apr'19 – Present)

- Inductor based active cell-balancing for Battery Management Systems using fuzzy logic.
- Interfacing PMOD NAV with Arty-S7 FPGA using Microblaze soft core processor.
- Peripheral device driver development for Cortex-M4 based STM32 devices.
- Wrote a 4 part series on using MicroPython programming with Espressif chipsets.

## Interests And Technical Skills

**Embedded Systems, Firmware Development, Model Based Design, Microcontrollers, Sensors**

**Languages**: C, Python, Assembly.
**Embedded Systems**: ARM Cortex MCUs, Xilinx FPGAs.
**Software Tools**: MATLAB/Simulink, Xilinx Vivado/Vitis, Eclipse/VS Code IDEs
**Design Tools**: Eagle EDA, KiCAD, LTspice, NI Multisim.
**Others**: Git, LaTeX, PowerDirector, Fusion 360.

## Recognitions and Involvements

- Element14 RoadTest Program (tested and reviewed BLDC Shield EvalKit, Trinamic Stepper Motor Driver and MotionPy Board, MAX77714 PMIC Kit)
- IEEE Student Member - **(IEEE Sensors, Electronic Design, Power and Energy Societies)**
- Digital Fever - Project14 First Place Winner, **Element14 Community Contest**
- Thinkerig Electronics Design - Second Prize Winner, **TechTatva** - MIT Manipal
- The Best Student RoadTester of 2021, **element14 Electronics**
- NPTEL MOOC Test - MSP430 Winner, **TI University Program**