Navadeep Ganesh U

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Education

M S Ramaiah University of Applied Sciences Bengaluru, KA
B.Tech., Electrical and Electronics Engineering (Grade: 8.6/10) *2019 – 2023*

Experience

Project Intern (Jun'22 – Present)
Bosch India
- Part of battery team and into embedded systems, mathematical modelling for Battery Management Systems.
- Working on Li-Ion cell model validation and development of algorithm for battery State-of-Health estimation.

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.

Undergraduate Research Intern (Sep'20 – Feb'21)
Centre for Energy, IIT Guwahati
- Worked on modelling domestic electric loads, performed estimation and processing on the power consumption data of the IITG campus for analysis.
- Explored ways to optimise energy generation and consumption using load profile analysis in Homer Pro tool.

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, Hardware Design, Microcontrollers and 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**