

Navadeep Ganesh U

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EDUCATION

M S Ramaiah University of Applied Sciences

Bengaluru, KA

B.Tech., Electrical and Electronics Engineering (Grade: 8.8/10)

2019 – 2023

EXPERIENCE

Embedded Systems Intern

(Aug'20 – Nov'21)

Praan Technologies

- Designed full-stack embedded hardware board including Sensor, Processing, Connectivity 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 electric load dataset of IITG campus, performed linear regression for predicting data using Python.
- Explored ways to optimise energy generation and consumption using load profile analysis in Homer Pro tool.

PROJECTS

AgriBot | *Motor Control, Sensors, CAD* [link]

(Nov'19 - Feb'20)

- Modelled and developed a multipurpose field bot that can perform environmental sensing and actuating tasks.
- Implemented on-system WiFi connectivity for posting sensor data and Bluetooth link for operating the bot.
- Sensor data is visualised and monitored using Thingspeak cloud and analysed with MATLAB.

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, Arduino, BLE, GSM*

(Apr'19 – Present)

- Miniature BLE automation with nRF52811 BLE chipset using serial commands via mobile app.
- Interfacing PMOD NAV with Arty-S7 FPGA using Microblaze soft core processor.
- Wrote a 4 part series on using MicroPython programming with Espressif chipsets.

INTERESTS AND TECHNICAL SKILLS

Embedded Systems, Hardware Design, Analog and Power Electronics, Sensors

Languages: C, Python.

Embedded Systems: ARM Cortex/AVR MCUs, Espressif/ZYNQ SoC, Xilinx FPGAs.

Software Tools: MATLAB/Simulink, Xilinx Vivado/Vitis, STMCube IDE

Design Tools: Eagle EDA, KiCAD, LTspice, NI Multisim.

Others: Git, LaTeX, PowerDirector, Fusion 360.

RELEVANT COURSES TAKEN

- Electric Vehicles: Plugging into Smarter Energy Management, **Schneider Electric**.
- Introduction to FPGA Design for Embedded Systems, **Coursera**.
- Introduction to Embedded System Design, **Swayam - NPTEL**
- Microcontrollers and Programming in C, **Udemy**

RECOGNITIONS AND INVOLVEMENTS

- Element14 RoadTest Program (tested and reviewed Infineon BLDC Shield, Nordic Semi BLE Kit, Trinamic Stepper 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
- NPTEL MOOC Test - MSP430 Winner, **TI University Program**
- The Best Student RoadTester of 2021, **element14 Electronics**