Navadeep Ganesh U

navadeepganeshu.github.io | linkedin.com/in/ngu25 | navadeepganesh.ngu@gmail.com | +91 7306059964

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, Assembly.
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**