PRANAV POTHAPRAGADA

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EDUCATION

Graduate Student(Ph.D), Louisiana State University   *4.00/4.00 CGPA — Present*
Electrical Engineering

Bachelor of Technology, SRM University - AP, India   *9.2/10.00 CGPA — July 2023*
Electronics and Communication Engineering

SKILLS

Programming Languages	Python, Java, Kotlin, C, C++, Dart, MatLab
Frameworks	ROS, ROS2, Firebase, MySQL, Flutter, Android Studio, AWS Cloud
Embedded Systems	Arduino/ ESP Devices, Raspberry PI, Xilinx vivado, Cadence Virtuoso, Verilog
Soft Skills	Teamwork, Presentation, Leadership, Technical Writing, LaTeX, MS Office

EXPERIENCE

Board Member, Next Tech Lab AP   *April 2022 - June 2023*
Next Tech Lab

- Involved in mentoring 300+ undergraduate researchers in the fields of Internet of Things and Robotics.
- Coordinated effective communication between various funding sources and Lab members.

Undergraduate Teaching Assistant   *Oct 2022 - June 2023*
SRM University - AP

- Conducted tutorial classes and doubt clarification for sophomores of the Electronics and Communication Engineering Department.
- Handled responsibilities concerning the course structure and grading.

App Development Intern   *Apr 2021 - Jul 2021*
Hyugens Labs Pvt. Ltd.

- Initiated and involved in the complete debugging process of the application stack.
- Developed and implemented the user interface for the Android app.

RESEARCH WORKS AND AWARDS

Surface Classification using Sensor-Fusion   *Aug 2022 - May 2023*

- Research is presented to improve the accuracy of classifying surfaces under a vehicle for easier autonomous control and decision-making.
- **Pothapragada, P.**, Neelamraju, P.M. (2023). Acoustic and Visual Sensor Fusion-Based Rover System for Safe Navigation in Deformed Terrain. In: Sharma, H., Saha, A.K., Prasad, M. (eds) Proceedings of International Conference on Intelligent Vision and Computing (ICIVC 2022). ICIVC 2022. Proceedings in Adaptation, Learning and Optimization, vol 17. Springer, Cham. https://doi.org/10.1007/978-3-031-31164-2_29

Digital Twin Design   *Jun 2022 - Nov 2023*

- Designed a digital twin of a UR5e collaborative robot that replicates the environment, allows controlling the original robot and has rigid body physics to simulate object interaction.
- Naskar, A., **Pranav, P.**, Shanmuganathan, P.V. (2023). Development of a Digital Twin Interface for a Collaborative Robot. In: Sharma, S., Subudhi, B., Sahu, U.K. (eds) Intelligent Control, Robotics, and Industrial Automation. RCAAI 2022. Lecture Notes in Electrical Engineering, vol 1066. Springer, Singapore.https://doi.org/10.1007/978-981-99-4634-1_16

ML-based microwave dipole antenna design optimization *Sep 2022 - Jun 2023*

- Research on designing a machine learning model that presents optimized dipole antenna design values for a given particular frequency.

- P. M. Neelamraju, **P. Pothapragada**, G. Rana, D. Chaturvedi and R. Kumar, "Machine Learning based Low-Scale Dipole Antenna Optimization using Bootstrap Aggregation," 2023 2nd International Conference on Paradigm Shifts in Communications Embedded Systems, Machine Learning and Signal Processing (PCEMS), Nagpur, India, 2023, pp. 1-4, doi: 10.1109/PCEMS58491.2023.10136108.

Image Processing and Clustering Algorithms for forest cover quantification *Jul 2021 - Feb 2022*

- Pavan Mohan. N and **Pranav. P**, Image Processing and Clustering Algorithms for Forest Cover Quantification, International Journal of Advanced Research in Engineering and Technology (IJARET), 13(6), 2022, pp. 12-20. https://doi.org/10.17605/OSF.IO/VF9UN

PATENTS

A System and a Method for the Internet of Things (IoT) Healthcare Framework *Aug 2023 - Jan 2024*

- Patent Filed (In India) for the design of a novel MQTT-Based IoT Framework for Scalable and Reliable Healthcare Data Management.
- **Pothapragada, P.**, Neelamraju, P.M. , Ramakrishnan, M. patent application No: 202341075746.

PERSONAL PROJECTS

PUF based Random Number Generator *Verilog, Xilinx Vivado™*

- An implementation of the Arbiter-PUF based random number generator based on the paper
- The objective has be realised and tested with a testbench. No clear patterns were noticed when running with post-synthesis timing simulation.

Autonomous Rover *Python, Raspberry Pi, React js*

- A smart rover system to enable the practice of social distancing in the midst of the pandemic and ease pressure on medical staff.
- Includes a 3D map of the environment, generated using a camera with a conv net. and a control algorithm to prioritize its task and finish them in the least possible time.

SimpliSecure *Java, C, Android Studio, Arduino IDE, ESP-01*

- An Android app that repurposes old Android phones to work as security devices.
- It has a standalone mode that works using a smartphone's built-in camera and another mode that connects to a PIR sensor with an ESP-01 for motion detection.

OTHER ACHIEVEMENTS

Gold Medals - SRM Research Day *2021,2022,2023*
SRM-AP

- Bagged multiple Gold Medals in consecutive research Days, from various Dignitaries for the Research Works that were presented, relating to the fields of autonomous control, Image processing and robotics.

Tatum Track Winner - Buidl for web3 *2022*
Bangalore

- Secured Tatum Track Prize in a international hackathon organized by Lumos Labs with prize money of USD 10,000.

2nd Position - HackNITR *2020*
NIT Rourkela

- Secured second position at the national level hackathon organized by NIT Rourkela.