Akshith R

LINKEDIN | MAIL | PORTFOLIO | LIVE DEMO

QUALIFICATIONS

Vellore Institute of Technology, Vellore, India *June 2018-April 2022 (expected)*
Bachelors of Technology in Electronics and Communication Engineering *Cumulative GPA: 8.80/10.0*

AREA OF EXPERTISE

Design& Simulation Tools	MATLAB, Fusion360, Eagle, Proteus, Solidworks
Programming Tools	Keil, STMStudio, CubeIDE, ROS
Programming Languages	Python, C++, Embedded C, Shell, HTML, Java, APL, Verilog
Others	Power electronics, Embedded and Control system, Instrumentation

PROFESSIONAL EXPERIENCE

Research Intern @ Indian Institute of Science (IISc), Bengaluru, India *September 2021 - Present*
Working on Human Robot Collaboration system using UR5 Cobot on control systems and planning algorithms. Implementing VR to improve perception and improve safety and productivity. (**Supervised by Prof. Abhra Roy Chowdhury**)

Globalink Research Intern @ York University, Toronto, Canada *June2021 – September 2021*
Designing and adapting dynamic equations for FANUC Robotic manipulator. Working on modeling the FANUC arm. Developing an algorithm for Image based Visual Servo with eye-in-hand configuration. (**Supervised by Prof. George Zhu**)

Illuminify Private Ltd (Accio Robotics), Bengaluru, India *April 2020 – January 2021*
Working on multiple Robotics projects that involves Assistive technologies for challenged people and developing different configurations of Robotic Arm and Navigation systems for Autonomous Systems.

Team ROVERX, VIT Vellore, India
Captain *March 2020 - Present*
Electronics and Instrumentation Engineer *May 2019 - March 2020*
Working on Mars prototype Rovers and competing on international level with other universities in URC competition. Involves Power Electronics, Embedded Systems and extensive research on sensors and instrumentation.

Creation labs, VIT Vellore, India
Lab Manager *May 2020 - Present*
Research Engineer *May 2019 - May 2020*
Member of a group of engineers exploring different research ideas and implementing it on varied projects involving different domains. Conducting national level events like IDRL and working in collaboration with ISRO on low orbit satellite payload.

PUBLICATIONS

MDPI BIOSENSOR JOURNAL 2021 *Published*
Recent advances on IOT-assisted wearable sensor systems for healthcare monitoring.
The paper compiles various communication technologies and the devices commonly used in IoT-assisted Wearable Sensor Systems and deals with its various applications in healthcare and their advantages to the world. A comparative analysis of all the wearable technology in healthcare is also discussed with tabulation of various research and technology.

PROJECTS

Robotic Arm for Equipment Panel Servicing
The robotic arm was a 6DoF design with LRL configuration with a differential End-effector. It was designed with the intension to make the control intuitive and to access a large plane of area with speed.

Rover Prototype for Martian Exploration
It involved designing a Martian based rover that could collect and analyze the environment, soil and rocks and communicate the data forward. It also involved designing robotic arm that could aid humans in the exploration.

Soil collection and onboard analysis system
The design involves a dynamic scoop system that collects soil and stores it in different slots where multiple tests are done and its results are recorded. A variety of motors are used to design the dynamic system considering speed and compactness.

Prosthetic Right Arm
This project involved designing a right arm that had the functionality to hold different positions of the hand that could be programmable by the user. It was designed with micro DC motors and compact custom PCBs that is embedded in the arm.

Mars Rover Prototype
The project involved designing multiple versions of rover systems that can navigate extreme terrains and perform a variety of tasks. It involved both manual and autonomous control over long distance communication using an array of cameras.

SpaceShare – Designing space grade PCB
This project involved designing a space grade PCB with an array of sensors that will collect and relay the data from a low orbit satellite. This project was done in collaboration with ISRO & Exceed Space.

Geo Fencing
Creating a virtual polygon using GPS coordinates to monitor the location of the subject and send notification in case of breaching the perimeter. The concept implemented has various applications for oversight of people.

ACCOLADES AND RECOGNITION

University Rover Challenge (URC) 2021	87.63/100 in Finals. Rank yet to be posted.
International Rover Design Challenge (IRDC) 2020	**8th** Worldwide. Drive System Innovation award
International Mars Hackathon (IMH) 2020	Placed 4th Worldwide. 3rd in Asia
Indian Rover Challenge (IRC) 2020	Placed 4th Worldwide. 2nd in Asia
University Rover Challenge (URC) 2019	Top 10 Worldwide. 3rd in Asia

EXTRA-CURRICULAR

RASTRAPATI SCOUT A member of Bharat Scouts and Guides. I was awarded the Rashtrapati Award from the President.
IDRL (Indian Drone Racing League) Member of the organizing committee. Design and Implementation engineer of the course.
IETE (Institute of Electronics and Telecommunication Engineers) Member of the technical team of the Chapter. Worked on various projects and conducted events.
SYNERGY Member of the organizing committee of the National level symposium with multiple workshops on robotics.
ACCESS DENIED Crew member of the organizing committee of a 2-day national level Hackathon.