Jerom Palimattom Tom

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Summary

I am a multidisciplinary engineering student with a holistic view of engineering gained by exploring all the different fields. My learning is project-based, and I am a collaborative team player who excels in multidisciplinary environments and possesses strong communication and leadership skills. I am eager to contribute my technical prowess and enthusiasm for technology to an early career opportunity, where I can do turnkey research projects, continue to learn and grow professionally and gain inputs to pursue higher education in the fields of Computer Science, AIML, and Robotics.

Education and Qualifications

IIT Guwahati *July 2025 - July 2029*
B.Sc (Hons) Data Science and Artificial Intelligence

- **Syllabus:** Generative AI, Neural Networks, Reinforcement Learning, Applications of AI, Machine Learning, Ethics in AI, Cloud Computing, Relational Database Management Systems.

Mar Athanasius College of Engineering *Jun 2021 – Jun 2025*
B. Tech in Mechanical Engineering

- **Coursework:** Mechatronics, Computer Aided Design and Analysis, Solid Mechanics, Design of Machine Elements, Operations Management, C Programming, Artificial Intelligence and Machine Learning

Graduate Aptitude Test in Engineering *2024*
Computer Science and Information Technology-Qualified

- **Syllabus:** Programming and Data Structures, Algorithms, Theory of Computation, Computer Organization and Architecture, Operating Systems, Databases, Computer Networks, and Software Engineering.

Experience

Team Lead *April 2025 – Jan 2026*
Team Latency Zero-NIDAR-Disaster Management

- Led a 10-member team to win the 1st Place in the Design Review Phase of India's Largest Drone Competition, National Innovation Challenge for Drone Application & Research (NIDAR).
- Build a swarm of two drones to scan a 30-hectare disaster-affected area and detect, geotag and deliver payloads to survivors, in under 30 min.

Team Lead *Jan 2025 – Mar 2025*
Team Mavericks-ASME XRC-Lunar Lander

- Led a 15-member team to create our first lunar lander that ranked first in the ASME Extended Reality Challenge - Lunar Lander
- Designed a lunar lander within competition-specific constraints in Fusion 360.
- Simulated the Lunar Lander in a virtual reality platform called HyperSkill and ensured that the lander navigates to the launch pad and lands safely.

Team Lead *Nov 2023 – Jun 2024*
ISRO Robotics Challenge 2024

- Led a 10-member team to create our first rover that ranked in the top 50 among teams from all over India.
- Designed a curved rocker-bogie suspension mobility mechanism and manufactured with cold rolling and Tig welding of aluminium pipes.
- The curved rocker-bogie had higher load capacity and was better at overcoming obstacles than conventional rocker-bogie systems.

Team Co-Lead and Manufacturing Lead *Dec 2023 – Aug 2024*
European Rover Challenge

- Focused on the manoeuvrability of the rover and manipulator
- Sourced materials and components for the rover while maintaining the finances and Bill of Materials
- Co-Lead the 26-member team, achieving a world rank of 48.

Web Lead *Oct 2022 – Oct 2022*
Google Developer Student Club

- Led the web development effort of the collegiate club GDSC MACE
- Designed and developed the websites for the club and its various events
- Organised a boot camp and trained a batch of 50+ students in web development

Steering Team *Jun 2022 – Sept 2023*
Team Influx - eBaja

- Worked on Ackerman steering geometry
- Designed parts of the wheel assembly
- Gained an overall understanding of automobiles and electric vehicles.

Projects

Multimodal Morphable Quadcopter with Radar for Search and Rescue *dartml.org*

- Prototyping of a quadcopter which can morph into rover mode for increasing the operational time available for searching. PSoC™ 6 AI Dev Kit with an embedded radar BGT60TR13C is being used to run an ML model capable of detecting humans without a line of sight up to a distance of 15m. Won the Hult Prize (2025) On Campus and advanced to nationals validating our potential social impact.
- Tools Used: Google Colab, SenseCraft, DEEPCRAFT™ Studio, EdgeImpulse, Fusion 360, Ansys

Traffic Light Colour Detection ADAS *Build2gether 2024*

- Developed a prototype of an Advanced Drive Assistance System that can be attached to any car to detect and monitor the change of traffic signals to alert the driver and improve traffic efficiency.
- Tools Used: Google Colab, RoboFlow, EdgeImpulse, Solidworks

Voice Controlled Chess for the Mobility Impaired *Build2gether 2024*

- Developed a prototype of a voice-controlled chess board using CoreXY-based CNC that runs GRBL to move and activate an electromagnet to move the chess pieces based on the voice-command.
- Tools Used: CoreXY, GRBL, Arduino, Solidworks

StarAI *NASA Space Apps 2023*

- Developed a RAG-based chatbot deployed on Streamlit to understand standard technical documentation that could be integrated into a robot to be a space co-pilot. Won Global Nomination for NASA Space Apps.
- Tools Used: Langchain, PGVector, Streamlit

VendiPrint *.hack(); 23*

- Developed a UPI-Enabled Automated Printing technology that allows you to pay and print while keeping your documents secure. Won runners-up at ".hack();", a hackathon conducted by IEEE MACE SB.
- Tools Used: MERN, CUPS, IPP, Raspberry Pi

Skills

Software: SolidWorks, Fusion 360, Ansys, MATLAB, Simulink, Google Colab, Edge Impulse, DEEPCRAFT™ Studio, Hyperskill, Google Workspace, Microsoft Office Suite

Languages: Python, C, embedded C, Javascript

Mechanical: Computer-Aided Design and Analysis, Design for X, Geometric Dimensioning and Tolerancing, Reverse Engineering, Additive Manufacturing, Material and Component Sourcing, Project Management.