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3× Concurrent Clubhead

Paid Debate Adjudicator

TEDxPESU

IEEE RAS

105 Teams Managed

IIT Madras

EDUCATION

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|--|--------------------------------------|----------------------------|-----------|
| B.Tech, ECE (Minor: CSE) Sem 5 SGPA: 8.54 (highest across all semesters) · Merit Scholarship (CGPA > 7.75); Sems 1, 3, 5 | PES University, Bengaluru | CGPA: 7.55/10 | 2023–2027 |
| Foundation Cert., Programming & Data Science | IIT Madras (Online Degree Programme) | Completed | 2023–2024 |
| Class XII, CBSE | Ryan International School, Bengaluru | 85.5% (Distinction) | 2023 |
| Class X, CBSE Maths: 100/100 · CS: 100/100 · Gold Medal, Brain-O-Brain Nationals (Abacus) | Ryan International School, Bengaluru | 98% | 2021 |

Key Coursework: Deep Learning, Machine Learning, Artificial Neural Networks, High Performance Computing, Quantum Transport & Logic Gates, Embedded Systems, Signals & Systems, Control Systems, VLSI Design, Linear Algebra, DSA, DAA, OS, DBMS

EXPERIENCE

- Teaching Assistant** | CIE, PES University (university's entrepreneurship & innovation hub) Jan 2026 – May 2026
- Supported delivery of a **university-wide mandatory entrepreneurship course** reaching **thousands of 2nd-year students** across every department; **revamped lecture slides from scratch**, set final examination questions, facilitated interactive innovation & ideation workshops.
 - Managed 105 competing teams (509 students) single-handedly** for CIE Ignite Competition: scheduling, mentor assignments, individual follow-ups, coordinated through to **finale with top-20 team selection**; all end-to-end communications.
- Professional Debate Adjudicator (Paid)** | British Parliamentary Circuit; rare for an undergrad 2024 – Present
- 4 paid IA engagements**: IIT Madras PD (12 rooms, NF Panel, 2 rounds chaired), **Oxford Schools India** (30 rooms), NLUO PD (broke as IA), NLSIU.
 - NSF Panel at NALSAR IVDC 2025** (33 rooms; **India's largest**); **OSF Panel**, Bhaavarth Pre-WUDC 2025 (all in-rounds chaired).
- Summer Intern** | IEEE RAS: Swarm Robotics for Waste Collection Jun – Jul 2024
- Engineered multi-robot **leader-follower algorithm in ROS 2** with master bot (inclined treadmill-style, magnetic follower bins) and TurtleBot3 fleet with **LiDAR navigation in Gazebo & NVIDIA Isaac Sim**; validated emergent coordinated pathfinding to dynamic targets.

SELECTED PROJECTS

- FitPredict-ML: Protein Fitness Predictor** | PyTorch, ESM-2 650M, HuggingFace, BioPython · Publication-quality 2025 – 2026
- Diagnosed positional memorization** in supervised protein fitness predictors: mean-pool ESM-2 embeddings yield near-chance ($\rho = 0.038$) on MK01_HUMAN; a failure mode invisible on standard evaluation splits.
 - Developed multi-modal fusion architectures (v1–v8) integrating ESM-2 embeddings, structural features (DSSP), ESM-1v scores, and MSA features. Recovered **+0.233 Spearman ρ** via per-residue embeddings; validated across **2 unrelated proteins** (11,805 total variants).
- Autonomous Aerial Docking** | Team Lead (4 members), Capstone · Dr. Shikha Tripathi (Chair, ECE) · Isaac Sim, PX4, ROS 2 Aug 2025 – Present
- Completed literature review identifying **20% vertical docking failure rate**; proposed novel **parallel geometry** to eliminate axial wake interference; initiated simulation in Isaac Sim + Pegasus with PX4-SIL. Developing depth-camera-to-relative-pose logic using Intel RealSense D435i.
- GestureIQ: sEMG Gesture Classification** | Scikit-learn, NumPy, SciPy · ML Course Project (team of 3) Jan – May 2026
- Full ML pipeline on NinaPro DB2 (58K windows, 12 channels, 6 gestures): **92.6% accuracy, macro-F1 = 0.760 (KNN)**. Demonstrated kernel trick necessity: LinearSVC F1 = 0.35 → SVM-RBF F1 = **0.73**. Built interactive real-time gesture predictor demo.
- Bengaluru Flood Risk Prediction** | Scikit-learn, Geospatial Data · Synapse Hackathon, PESU 2025
- Built civic-tech ML tool integrating **hyperlocal weather prediction** with Bengaluru's lakebed geospatial data; user inputs location → receives real-time **flood risk evaluation** during heavy rainfall.
- REN-CONSOLE: Arduino Pong & Snake** | Arduino C++, WiFi3, HC-SR04 · Embedded Systems Project 2025
- Dual retro games on Arduino UNO R4 with **touchless ultrasonic gesture control (HC-SR04×2)**; microcontroller hosts **live WiFi scoreboard** (auto-refresh 1s); zero external infrastructure.

LEADERSHIP & POSITIONS OF RESPONSIBILITY

- Clubhead, TEDxPESU** (prev. Event Production Head) Aug 2024 – Present
- Leading **30+ core team**. As Production Head, **directed 20+ crew** for **2 TEDx events** ("Mosaics of Modernity" '24, "Tessellations of Time" '25; ~200 attendees each): AV, stage, live streaming, full on-stage execution.
- Secretary, IEEE RAS** (PES University's robotics society, 100+ members; prev. Domain Head & Hackathon Co-Head) Dec 2024 – Present
- Directing all verticals. As Domain Head, led all non-tech ops; as Co-Head built **RoboFest 4.0** framework & co-created **ReRO**: participants upload code to **live physical robots** on campus, real-time video feed, international participation.
- Clubhead, MINERVA Media Club** (JMC dept. works under MINERVA; prev. Events & Media Head) 2024 – Present
- Directing content & multimedia. As Events Head, built **Tri-Media-Thon**: overnight hackathon (20–30 crisis cases, **Adobe sponsor, CEO of Surge Productions** as judge, internships on the spot).
- Marketing Head & Equity Panel** | PES Debate Society (100+ members) Aug 2024 – Present
- Drafted equity framework from scratch** (reviewed global circuit docs); co-hosted **PESDT 2024** (8 rooms); mentoring juniors on strategy & adjudication.
- Content Creator & Technical Writer** | CIE Newsletter, Write Angle, QForest 2023 – 2025
- Published interviews with **CTO of PES University** (Harsha / 4good.ai), **Chair ECE** (Dr. Tripathi), **startup founders** (Adhilash / Consuma.ai).
- OC, Aatmatrisha 2024** (PES University's largest cultural fest); led volunteer team for PR & campaigning; on-ground outreach at external venues; produced promotional social media content.
- Co-Head, Community Service, Rotaract Club** (Aug 2023 – May 2024); organized Annadanam food donation, RAHI charity drive; raised **Rs. 5,000–15,000** across events.

TECHNICAL SKILLS

Languages: Python, C/C++, SQL, Verilog/VHDL · **ML/DL:** PyTorch, HuggingFace, Scikit-learn, Pandas, NumPy, BioPython, DSSP · **Web:** Django
Robotics: ROS 2, NVIDIA Isaac Sim, Pegasus, PX4-SIL, Gazebo, MAVROS, ArduPilot · **Hardware:** ESP32, Arduino, RealSense, Jetson, LiDAR
EDA/CAD: Xilinx, MATLAB/Simulink, SolidWorks, Altium/KiCAD · **Tools:** Git, Linux/CLI, Wireshark, GNS3

AWARDS & ACHIEVEMENTS

Adjudication: 4 paid IA (IIT Madras, Oxford Schools, NLUO, NLSIU) · OSF + NSF + 3×NF Panels · Judged India's largest (NALSAR, 33 rooms)
Competitive: 3rd Best Novice Speaker, Pre-UADC '26 · Runner-Up, SBSPD '24 · 2nd Best Novice Speaker, RCL '24 · Highest Breaking Novice, NUALS PD
Innovation: 3rd Place, PES E-Cell Ideathon: novel startup concept: physical book library with virtual borrow/return interface
Academic: Gold Medal, Brain-O-Brain Nationals · Class X: 98%, Maths 100, CS 100 · Merit Scholarship (3 semesters)