Ethan Dsouza

847 Harrison Ave Forked River New Jersey 08731
ethanzizu10@gmail.com | +1-732-581-8405 | Open to Global Relocation

TECHNICAL SKILLS

Aerial Robotics; Artificial Intelligence; C++; C#; CI/CD; Computer Vision; Control Theory; Convex Optimization; Data Integration; Design Patterns; Docker; Dynamical Systems; Embedded Systems; Gazebo; Git; Linux; MATLAB; Machine Learning; .NET; Path Planning; Python; PyTorch; ROS; ROS2; SLAM; Sensor Fusion. Technical portfolio

EDUCATION

Sep 2024-Sep 2025 - ***MSc Robotics & AI*** **- University College London (UCL)**, London, UK - Distinction (4.0 Equivalent)
Sep 2020-May 2024 - ***BSc Artificial Intelligence*** **- Anglia Ruskin University**, Cambridge, UK - Distinction (4.0 Equivalent)

EXPERIENCE

Aerial Research Intern - *University College London (Here East)* - May 2025–Sep 2025
• **Developed and integrated SLAM on an X500 drone** using an onboard Jetson Nano.
• **Integrated 2 SLAM frameworks** to support student thesis research and experimentation.
• Documented software and hardware integration, including 3D modeling of components.

Full-stack Software Developer - *Blackdot Solutions* - Sep 2022–Feb 2025
• **Developed and maintained core functionality** in data integration systems and web applications.
• Deployed automated testing with GitHub Actions, **executing ~200,000+ tests per day in a CI pipeline**.
• **Held sprint reviews** to stakeholders and colleagues.
• **Implemented 5 core API integrations** for clients such as HSBC, Deutsche Bank, and the UK Government.
• **Designed and implemented RESTful application programming interfaces(APIs)** for user and profile management.

Mobile App Developer - *Openspace* - Jan 2022–Jun 2022
• Developed and **launched a geo-location based mobile game** to encourage exploration of Cambridge.
• Used **Google Cloud Platform (GCP)** and Google Maps APIs.
• **Supported 100+ concurrent users** and **handled 5,000+ API calls** in a single day.

Educational Tutor - *Code Ninjas* - Sep 2019–Apr 2020
• Taught loops, conditionals, and variables to students aged 7–14.
• Updated parents informed about progress and focus areas.

PROJECTS

Hybrid Aerial Surface Vehicle – Ongoing since Oct 2025
• Designed, built, and **3D-printed a drone capable of both quadrotor flight and marine operation**, developed from scratch.
• The **project was accepted into the 2025 Founders Inc. Blueprint Program**, with a one-on-one call with Hubert Thieblot.
Portfolio: HASV Project

Autonomous Underwater Drone Pollution Detection - Sep 2025
• Developed an **autonomous online learning based robotic system** using the BlueROV2 UUV for river pollution monitoring.
• Implemented a **model predictive controller (MPC) for executing autonomous trajectories** in river simulations.
• Developed a **partial differential equation (PDE) based flow simulator for modeling fluid dynamics** in polluted environments.
• Architected and **trained an inverse physics-informed neural network** for parameter inference and concentration recovery.
Portfolio: UUV Project

Laplacian-Based Drone Swarm - Apr 2025
• Developed a **decentralized drone swarm control system using a Laplacian-based coordination** method.
• Implemented on Crazyflie drones and **deployed on 3 drones to autonomously navigate a field of 7 poles**.
Portfolio: Drone Swarm Project

1st Place Google & Neuphonic AI Hackathon - Dec 2024
• Built a **low-latency object detection system for visually impaired users** in under 4 hours.
• Utilized **YOLO, an Arducam, and a real-time text-to-speech API** for real-time feedback.

CERTIFICATIONS

Stanford Online: Convex Optimization
MATLAB Online: Machine Learning; Deep Learning; Signal Processing; Image Processing.
Jovian.ai: Data Analysis; Machine Learning.