RAUNAK SAXENA

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https://raunak1404.github.io/Portfolio/

EDUCATION

Nanyang Technological University, Singapore   August 2023 – May 2027
- Major: AeroSpace Engineering with a Minor in Computer Science and Data Analytics.
- Courses: Thermodynamics, Aerospace Materials, Mechanics of Materials, Aircraft Structures, Flight Performance, Control Theory, Engineering Graphics, Software Engineering, Object Oriented Programming, Data Structures and Algorithms, Data Science and Artificial Intelligence.
- Activities: Indian Society; Google Developer Student Clubs; Mechanical and Aerospace Club; Welfare Services Club.

EXPERIENCE

AI Intern, *Asiatel*, Singapore   May 2025 – July 2025
- **Developed an AI system** to translate ICAO aviation codes (METAR, TAF, SIGMET) into phonetic English for automated radio broadcasts at Changi Airport.
- **Applied Transformer-based models** to decode and semantically interpret structured aviation weather reports.
- **Integrated the system into air traffic control workflows** to improve real-time communication, enhancing operational clarity and flight safety.

PROJECTS

OrbitWise, *Personal Project*   September 2024 – November 2024
- **Developed OrbitWise**, a machine learning-powered tool for predicting exoplanetary orbital periods using models like Linear Regression, Decision Trees, Random Forests, Gradient Boosting, and a Stacking Ensemble.
- **Designed for astronomical research**, offering a scalable and efficient approach to analyzing exoplanet orbits, aiding in the identification of Earth-like planets.

MediMap+, *Personal Project*   September 2024 – December 2024
- **Developed MediMap+**, an all-in-one healthcare platform designed to improve accessibility and support health and wellness in Singapore.
- **Integrated key features** such as a smart hospital locator with customizable filters, educational resources on First Aid, and an appointment booking system for seamless online and offline scheduling.

Wary Potter – Enchanting Pothole Escape, *Personal Project*   January 2025 – May 2025
- **Led a 9-member team** to develop 'Wary Potter'—a real-time road safety system using Raspberry Pi, LiDAR, GPS, and a custom YOLO model for pothole detection.
- **Integrated hardware, AI, and haptics** to deliver an innovative cyclist alert solution, combining technical execution with user-focused design.

CodoSphere, *Personal Project*   May 2025 – August 2025
- **Created Codosphere —** a competitive coding platform where users can solve problems, study topics, and practice effectively through structured modules.
- **Introduced real-time multiplayer coding battles** to make learning fun, engaging, and skill-matched for users.

LEADERSHIP & VOLUNTEERING

Treasurer, *Indian Society*   September 2023 – May 2024
- **Managed financial records** as Treasurer of IndSoc Club, ensuring transparency and accountability by tracking incoming and outgoing funds.
- **Secured sponsorships and partnerships** with businesses to support club initiatives and events, enhancing financial sustainability.
- **Collaborated with the executive team** to develop budgets and plan community-focused activities, strengthening the club's presence.

Financial Controller, *NTU Welfare Services Club*   September 2024 - May 2025
- **Managed club finances** as Financial Controller of the Welfare Services Club, maintaining accurate records, overseeing fund management, and ensuring financial accountability.
- **Collaborated with the executive team** to plan and execute events that align with the club's mission and objectives.
- **Actively participated in volunteer sessions**, engaging with physically challenged individuals to foster meaningful connections and contribute to the community.

Subcommittee Member, *Mechanical and Aerospace Engineering Club*   September 2024 - May 2025
- **Managed backend operations** as a Logistics Subcommittee member in MAE NTU, ensuring smooth execution of school events.
- **Coordinated logistics and event operations**, addressing challenges during planning and execution.
- **Collaborated with the team** to facilitate seamless event management and contribute to successful initiatives.

TECHNICAL SKILLS & CERTIFICATIONS

- Tools & Programming Languages: React JS; C; Node JS; C++; Java; Python; Web Development; SQL
- 3D modelling using SolidWorks.
- Certifications: Foundations of User Experience Design (Google), Google Prompting Essentials