

ADI RAJENDRAN

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EDUCATION

University of New South Wales

Bachelor of Engineering (Aerospace, Honours)
2020

Baulkham Hills High School, NSW

Higher School Certificate (HSC)
2014

EMPLOYMENT

Systems Engineer - BAE Systems, Melbourne

June 2023 - August 2023

- Composed System Specification (SS) documents in IBM DOORS to manage system requirements.
- Composed System Design (SD) documents and performed engineering analyses.
- Trained in DOORS NG and Cameo Systems Modeller.
- Provided architectural input into Over The Horizon Radar (OTHR) Systems.
- Worked with AS, NZS, EN and IEC standards for RF, electrical and laser equipment.

Regulatory Specialist - Swoop Aero, Melbourne

March 2023 - June 2023

- Planning and management of RPAS safety case projects from inception to delivery.
- Representing Swoop Aero in various safety and regulatory forums in the area of RPAS.
- Maintaining and developing documentation to existing standards, ensuring system compliance with future regulations and projected industry pathway.
- Interfacing with stakeholders to identify requirements, limitations, and action items to achieve regulatory approval for a multitude of operations.

Head of Engineering - Lux Aerobot Pty Ltd, Melbourne

July 2019 – November 2022

- Led engineering design process for 3 generations of high-altitude balloon vehicles for earth observation. Defined requirements, composed system architectures, and organised design reviews for various subsystems.
- Directed stratospheric balloon flight campaigns, which involved coordinating logistics, equipment, and personnel to ensure flight and contract objectives were met.
- Implemented Flight Readiness Reviews (FRRs) to evaluate the state of hardware planned for flight, decide launch parameters, and make GO/NO-GO decisions.
- Implemented Pause and Learn Sessions, inspired by NASA, which were structured discussions after each flight for the whole team to reflect on their experiences and collate all learnings.
- Led the regulatory approval process for heavy balloon platforms in Australia and Canada by working directly with CASA and Airservices Australia, as well as Transport Canada, to assess and mitigate air and ground risks. Wrote detailed Safety Cases to prove compliance of gondolas with local regulations, evaluate modes of failure, and conduct risk assessments.
- Liaised with large stakeholders such as CSIRO, Bureau of Meteorology, and Air Force Plan Jericho.
- Managed Lux's deliverables for Pathfinder project funded by Trusted Autonomous Systems for Defence CRC to demonstrate use of HAPS for bushfire monitoring in collaboration with RMIT.
- Composed professional-standard documents, including proposals, patents and reports.
- Integrated UHF transmitters (radiosondes, RFD900s, LoRa modules) and set up ground stations for the tracking of balloons and live downlinking of data.

- Developed a Raspberry Pi-based avionics system with positioning redundancy, environmental sensing, logging, multithreading, UDP streaming, and radio communications.
- Developed an accurate physics-based calculator for balloon ascent in Python.
- Communicated with suppliers across the world for customised products and services.
- Conducted office management duties, including communicating with leasing agent as needed, coordinating trades personnel for repairs, organising cleaning services, and paying bills on time.

Intern - Otus Intelligence Group Pty Ltd, Sydney

December 2018 – April 2019

- Used QGIS, Google Earth, and mapbox to work with remote sensing satellite data.
- Helped develop company website using Wordpress - coded custom menu bar in HTML and CSS.
- Conducted case study and detailed analysis of a new application for the intelligence platform.

Teaching Assistant (Casual) - School of Physics, UNSW, Sydney

March 2018 – May 2019

- Managed group of 30 students in online physics course GENS4015.
- Provided feedback and marking for weekly tutorials and assignments.
- Corresponded regularly with course coordinator and students.

Astronomy Educator (Casual) - Sydney Observatory, Sydney

Oct 2015 – Oct 2017

- Delivered guided astronomy tours to the public, as well as school groups of all ages.
- Collaborated with colleagues from various disciplines to ensure programs ran smoothly.
- Effectively communicated physics concepts in easy-to-understand manner.
- Developed new planetarium show for Ancient Egyptian Skies program in November 2016.

EXTRA-CURRICULAR

BLUESat, UNSW

February 2017 – August 2019

- Led team of 10 to develop atmospheric satellite for NATO-funded SAR project
 - Conducted systems engineering, including requirements definition, detailed system architecture design, and tradespace analysis.
 - Developed avionics and imaging systems using Python and COTS hardware
 - Managed recruitment process, including composing role advertisements, and screening and interviewing applicants.
 - Directed 6 high-altitude balloon missions for testing of various subsystems
- Operated satellite ground station for UNSW-ECO satellite at the Australian Centre for Space Engineering Research (ACSER)
 - Worked with RF hardware and attained a standard-level Amateur Radio operator licence
 - Used Gpredict software to track satellites by controlling the pointing of ground station
 - Trained in using custom software interface to simulate and practice in-orbit operations with the ECO engineering model prior to actual satellite deployment
 - Manned ground station during overhead passes of satellite to download data
- Managed launch services for UNSW TechConnect NewSpace Flash Build 2018
 - Goal was to showcase Australian Space Industry capabilities to the NSW Government
 - Coordinated with multiple teams in an extremely tight timeline (1 month) to launch and recover all research payloads aboard 2 stratospheric balloons

The Maker Games, UNSW

March 2018 – November 2018

- Led a team of 5 multidisciplinary students, partnering with remote-sensing company FluroSat to develop a multi-spectral imaging system to capture, process and visualise plant health

Grand Challenges: Design for a Better World Program, UNSW

February 2017 – June 2017

- Led a team of 4 multidisciplinary students to pitch a solution for raising global climate-change awareness and understanding