Pramit Shende

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EDUCATION

Carleton University, Ottawa ON **CGPA: 11.0/12.0 (A)**

Bachelors of Engineering – Aerospace Engineering Co-op (Space Systems Design) *Graduation Date: 2028*

PROFESSIONAL EXPERIENCE

Carleton Aerospace Astrophysics Radio Club (CA2RC) **Ottawa, ON**

Vice President & Systems Team Lead *Nov 2023-Present*

- Managed team operations, funding, and outreach as VP for CA2RC, a student organization with over 50 members aimed at launching Carleton University's first satellite into orbit.
- Led the management tasks for a 3U CubeSat mission, managing interdisciplinary integration, requirements verification, and risk analysis to ensure mission readiness and successful deployment.
- Wrote various mission technical reports such as the concept of operations, payload feasibility studies, and stakeholder analysis, ensuring accuracy and validity of all claims.
- Explored design solutions for structure thermal regulation using thermal coatings and films based on orbit temperature simulations procured using **Systems Tool Kit (STK)**.
- Led the design, assembly, and mission of a 1U high altitude balloon satellite using **SolidWorks**.

Carleton University Spacecraft Manufacturing Lab **Ottawa, ON**

Undergraduate Member *Nov 2023-Present*

- Designed and prototyped cube satellite sun sensors using photodiodes to meet mission pointing requirements, leveraging **EasyEDA** for **PCB design** and development of the sensor board.
- Designed and built a high-precision test stand for sun sensor array calibration in **Onshape**, ensuring accurate data acquisition and validating sensor performance.
- Prototyped parts in Onshape for **3D printing** regarding a build of a portable satellite ground station.
- Assisting fourth year capstone students with part design and assembly as a member of the satellite design project led by Bruce Burton at the Carleton University Spacecraft Manufacturing Lab.

Space Copy **Edmonton, AB**

Research/Engineering Intern *Jul 2024-Sep 2024*

- Collaborated with a team of over 10 multidisciplinary engineers and interns in the design of innovative FDM and SLS 3D printing technologies tailored for lunar environments.
- Led the prototype of a tendon driven robotic arm gripper for use within the 3D printing chamber, created detailed CAD models and engineering drawings on **Onshape** to ensure simplicity of manufacturability while meeting design requirements of part and geometry adaptability.
- Conducted extensive research on lunar regolith properties and their impact on 3D printing materials and processes, providing valuable solutions for material selection and printer gantry system design.

Shende EIT Services **Edmonton, AB**

Self Employed – Sole Proprietorship *Aug 2022-Sep 2024*

- Developed over 50 building permit applications, detailed engineering drawings, and structural load calculations on warehouse storage racking systems for projects worth over $10 million.
- Prepared and optimized quotations on **Excel** for projects exceeding $15 million in total value, contributing to a 100% increase in Burns Bridge Engineering's annual revenue in 2023.
- Drafted over 10 inspection and damage reports for clients, implementing appropriate material handling procedure and certification improvement recommendations.

PROJECTS & EXTRACURRICULARS

Landsat Lab **Ottawa, ON**

Team Member *April 2024-Aug 2024*

- Led the procurement and interpretation of Landsat 8 and 9 data, providing theoretical insights on surface reflectance as part of a web app submission to NASA' s Space Apps hackathon.
- Developed methodologies for satellite tracking and overpass notifications using Landsat orbit telemetry, optimizing ease of use for users such as citizen scientists and students.

Lunar Research Project **Ottawa, ON**

Lead Author *April 2024-Aug 2024*

- Shende, P., & Muhammad, H. (2024). Towards Safer Lunar Habitats: Strategies for Detecting and Mitigating Moonquake Risks.
- Authored a technical paper on strategies that help mitigate moonquake hazards for future lunar missions through detection using satellite platforms, moonquake prediction, and mission planning.
- Paper abstracts were accepted at IAC 2024 and COSPAR 2024, with a technical session presentation at CASI ASTRO 2024.

Red Bull Soapbox Kart **Edmonton, AB**

Project Lead *May 2024-Jul 2024*

- Led design and construction of a life size calculator soapbox kart which secured top 5 placement in categories of speed, design, and quality of construction.
- Led and supervised a team of 5 members, ensuring clear communication and task delegation to maintain workflow efficiency through monitored project timelines and milestones.
- Managed a project budget of $1500 and part inventory using **Excel**, contributing to the kart's completion one week ahead of schedule and 10% under budget.
- Simulated race conditions, evaluated chassis strength and impact forces using **SolidWorks** and kinematics analysis, ensuring structural integrity during high-stress scenarios such as jumps.

UAV Design and Rebuild **Ottawa, ON**

Team Member *Sep 2023-Nov 2023*

- Contributed to the design and manufacturing process of a UAV at Blackbird UAV. Focused on cabin design using **Fusion 360** to create 3D models around competition requirements.
- Organized the rebuild of an unmanned aerial vehicle kit, scheduling task milestones, documenting kit inventory, and problem-solving mechanical issues.

EXTRACURRICULARS & INTERESTS

Pulsar Institute **Ottawa, ON**

Inaugural Cohort Fellow *Jan 2025-Present*

Space Canada Spacebound 2024, CASI ASTRO 2024 Conferences **Toronto/Ottawa, ON**

Conference Volunteer *Aug 2024-Sep 2024*

V4U Radio **Edmonton, AB**

Volunteer Coordinator / Key Podcast Member *Jul 2023-Aug 2024*

Alberta Hindi Parishad **Edmonton, AB**

Volunteer Coordinator / Key Podcast Member *Sep 2018-Aug 2023*

Royal Canadian Air Cadets **Edmonton, AB**

Sergeant / Level 4 Cadet *Sep 2018-Jun 2022*

Interests: Formula 1, Sailing, Skiing, Weight Training, Cricket, Badminton, Painting, Camping, Reading, Investing