Amulya Pathania

Manufacturing Engineering Student

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TECHNICAL SKILLS

Computer Skills
- SolidWorks
- MATLAB
- RAVEN
- ANSYS
- Microsoft Office Suite

Mechanical Skills
- 3D Modeling
- 3D Printing
- Machining

Programming Languages
- C
- C#
- Arduino IDE
- PLC Programming

EDUCATION

University of British Columbia **Expected Graduation: May 2028**
Bachelor of Applied Science - Manufacturing Engineering
Co-op: Available for 16 months beginning May 2026

ENGINEERING DESIGN TEAM

UBC Rover, Vancouver, British Columbia **September 2024 – Present**
Mechanical Rover Lab Member

- Designed and developed a carousel system for precision rotation and positioning of multiple liquid solution samples to aid in life-detection testing on the UBC Rover
- Currently leading a small team to design and manufacture a drilling auger for soil life testing applications
- Gained hands-on experience with designing, SolidWorks, and 3D printing through prototyping and refining Rover assemblies for optimal performance
- Collaborated across multiple sub teams to troubleshoot design challenges, optimize functionality, ensure seamless integration, and meet project deadlines
- Demonstrated adaptability as a new team member by quickly developing technical skills through practical experience and collaboration, contributing to meaningful projects while fostering a passion for engineering design

TECHNICAL PROJECTS

RC Car, University of British Columbia **September 2025 – Present**
Designed and fabricated an RC car through multiple manufacturing processes

- Currently collaborating in a team of seven to research, design, and produce an RC car with manufacturing processes
- Produced aluminum wheels with casting and machining, fabricated a thermoformed shell and constructed a composite for a chassis extension
- Prepared a comprehensive technical report detailing design objectives, prototyping, project management, experimental findings, manufacturing performance analysis, and data-driven conclusions
- Presented design rationale and technical results through an oral presentation to faculty and peers

Manufacturing Processes Laboratory, University of British Columbia **September 2024 – April 2025**
Gained hands-on experience with a wide range of manufacturing processes throughout a year-long lab course

- Performed thermoforming, casting, deep drawing, injection molding, and spring winding to explore process parameters and material behavior
- Operated industrial equipment including milling machines, lathes, and welding tools to gain hands – on experience

- Fabricated composites using wet layup, prepreg, and vacuum infusion methods followed by mechanical testing to compare tensile strength, stiffness, and failure
- Completed detailed lab reports that analyzed each process' science, experimental results, and performance trends across different manufacturing methods

Rainwater Harvesting System for Van Anda, University of British Columbia **March – April 2024**
Addressed water scarcity issues in remote communities

- Developed and evaluated multiple potential solutions using a Weighted Decision Matrix and a Streamlined Life Cycle Assessment, based on stakeholder needs
- Utilized Excel for system modeling to simulate real life performance, allowing further recommendation for optimal water collection, storage, filtration, pump, and power systems
- Completed an Expression of Interest and presented the final project to peers by defending the system as a reliable and cost-effective solution to water scarcity, and produced a detailed video with specifics

Adaptive Device: Assistive Mouse Clicker, University of British Columbia **December 2023**
Designed and presented a user-friendly device for a client with limited finger and wrist mobility

- Collaborated with engineering students to brainstorm, design, and prototype an adaptive device
- Used a structured design process that included stakeholder/risk analysis, and concept evaluation using a Weighted Design Matrix
- Completed a Technical Memorandum that outlined the design process, requirements, and final recommendations

OTHER WORK EXPERIENCE

Gate Gourmet, Calgary, Alberta **July 2023 – August 2023**
Kitchen Helper

- Assembled airline meals for Air Canada and WestJet, adhering to high hygiene standards and safety protocols
- Demonstrated reliability and punctuality by meeting daily production targets

VOLUNTEER EXPERIENCE

My Best Friend's Closet, Calgary, Alberta **July 2022 – August 2023**
Garment Preparator

- Sorted, steamed and prepared donated clothes to empower low-income girls by helping provide fashionable clothing for a personalized shopping experience
- Upcycled donated clothing by ensuring high quality preparation, contributing to sustainable practices in the community
- Attained effective communication and collaboration skills, ensuring smooth operations and timely completion of tasks

AWARDS

South Middle Campus Society Outstanding Service Scholarship 2023
Mr. Bruce Parkin Integrity & Character Award for Grade 12 Badminton 2023
Alexander Rutherford Scholarship 2023

INTERESTS & ACTIVITIES

- **Sci-fi Media**
  - Passionate about games, songs, movies and books with futuristic themes such as *Cyberpunk 2077*, *Pacific Rim* and *Neuromancer*

- **Space Exploration**
  - Fascinated by engineering innovations and advanced space technology, such as rovers, that enable space exploration and a deeper understanding of extraterrestrial environments