

KUMAR VARENYA

(604) 727-7638 | kvarenya@student.ubc.ca | [kvarenya.github.io](https://github.com/kvarenya)
[ORCID](#) | [LinkedIn](#) | [Github](#)

EDUCATION

University of British Columbia

Vancouver, BC

Bachelor of Applied Science in Computer Engineering and Honours Mathematics

2021 – 2026

GPA: 87.9%

Awards: 2023 Trek Excellence Scholarship (\$1,500)

2021 International Major Entrance Scholarship (\$80,000)

2021 Outstanding International Student Scholarship (\$25,000)

EXPERIENCE

Amazon

Vancouver, BC

Software Development Engineer Intern (AWS)

May 2024 – December 2024

- Designed and implemented automated testing frameworks for e-commerce tools, reducing manual testing efforts by 40%.
- Conducted performance testing for AWS-based services, resolving latency bottlenecks improve response times by 15%.
- Collaborated with cross-functional teams to debug and document edge cases, ensuring robust feature deployment for customer-facing platforms.

UBC Uncrewed Aircraft Systems

Vancouver, BC

Payload Mechanical Designer

September 2022 – April 2023

- Engineered modular payload mounting systems for autonomous drones, optimizing weight distribution and assembly.
- Conducted stress analysis and wind tunnel testing to validate design performance under simulated flight conditions.
- Worked with electrical engineers to integrate sensor packages, improving real-time data acquisition during test flights.

University of British Columbia, Department of Computer Science

Vancouver, BC

Teaching Assistant (CPSC 110, CPSC 121)

January 2023 – April 2024

- Led weekly tutorials for 2000+ students, improving understanding of functional programming and discrete mathematics concepts, as evidenced by a 15% average improvement in student grades.
- Graded over 500 assignments and exams per week and provided constructive feedback to improve student performance.
- Collaborated with course instructors to update course materials, aligning content with current programming practices.

Oil and Natural Gas Corporation

New Delhi, IN

Summer Intern

Summer 2022, 2023

- Analyzed pipeline monitoring data to identify potential failures, reducing unplanned maintenance incidents by 20%.
- Supported the implementation of GIS mapping tools for resource allocation and logistics planning.
- Assisted in designing database systems to track over 1,000 equipment inspections and maintenance schedules.

University of British Columbia IT – Audio Visual

Vancouver, BC

Learning Space Steward (Work Learn)

2021 – 2022

- Provided AV/IT support for over 300 classrooms and lecture theaters, troubleshooting technical issues, ensuring seamless operations, and minimizing disruptions during lectures and events.
- Led system upgrades, hardware replacements, and break/fix processes, coordinating with internal teams to improve AV/IT functionality and reliability.
- Managed AV networks, software deployments, and IT integrations, including Zoom and Panopto, to optimize system performance and user accessibility.

RESEARCH EXPERIENCE

Tokyo Institute of Technology

Tokyo, JP

Indian Delegate, Sakura Science Plan (Collaborative Research Activities Course)

2020

- Coordinated a 8-person team to develop a fiducial-marker-based localization model for an unstable camera feed.
- Optimized the localization model using V-rep for real-time camera feeds, achieved a calibration error of $\leq 0.5\%$.
- Orchestrated design, combined rule-based script and rigorous unit testing to validate auto-evaluators with 95% coverage

Toyohashi University of Technology

Aichi, JP

Indian Delegate, Sakura Science Plan (Collaborative Research Activities Course)

2020

- Coordinated a 4-member team in developing a versatile, multi-tasking robot from inception to completion.
- Optimized pathfinding (A* & Dijkstra) algorithm, reduced execution time by 22%, facilitating swifter navigation.
- Integrated IR, proximity sensors, encoder motors, and servos for enhanced perception and seamless autonomy.

TECHNICAL SKILLS

Languages: Java, C/C++, Python, R, SQL, HTML/CSS, MATLAB, Lua, ARM Assembly, Verilog

Frameworks: Git, JUnit, Swing, JavaFX, Jupyter, NumPy, TensorFlow

Tools: Valgrind, Bash & Shell, Altium Designer, Arduino, Raspberry Pi, Solidworks