PRANAY KABRA

Manufacturing Engineering Graduate | (236) 999-0388 | pranaykabra13@gmail.com | LinkedIn |

EDUCATION

University of British Columbia **Vancouver, BC**

Bachelor of Applied Science, Manufacturing Engineering, Minor in Commerce *Expected May 2026*

- Key Courses: Industrial Robotics & Automation, Computer Control of Mechatronics Systems, AI and ML in Manufacturing

WORK EXPERIENCE

Svante **Vancouver, BC**

Mechanical and Material Engineering Co-op *January 2025 to August 2025*

- Enhanced test bench stability by designing support brackets in **Creo**; implemented a modular layout using off-the-shelf components, reducing measurement error and test setup time when switching between different products
- Designed and fabricated a **GD&T**-controlled lap shear testing jig to support adhesive strength validation, reducing sample preparation time by **40%** and improving test repeatability
- Implemented operator safety systems for commissioning a production-ready cobot assembly line by integrating a **PILZ** motion radar sensor, developing a **state-machine architecture in Python**, and creating an **HMI** for real-time monitoring
- Calibrated a hot-wire anemometer for near-field airflow measurement by integrating reference velocity and pressure sensors; programmed a **Beckhoff PLC** and developed an **HMI** interface to record velocity-voltage data
- Automated test data analysis by using **VBA** and macros in Excel, reducing report generation time by **83%**
- Collaborated cross-functionally with design, quality, and manufacturing engineers to improve product manufacturability.

Dometic Marine Solutions **Vancouver, BC**

Quality Engineering Co-op *September 2024 to December 2024*

- **Saved $200,000** in scrap costs by bridging product manufacturing and quality inspection; applied Lean principles with time studies, root cause analysis, and value stream mapping to cut scrap rate and improve productivity
- Led continuous improvement initiatives and reduced downtime from **3 days to 7 minutes** by optimizing material flow and eliminating non-value-added motion
- Designed brackets in **Creo** for fixtures to improve stability, ensure precision, and reduce errors and delays in inspection
- Performed Gauge Repeatability & Reproducibility study and provided recommendations to improve measurement accuracy

TECHNICAL EXPERIENCE & PROJECTS

Capstan Gearbox Development **Vancouver, BC**

UBC Capstone Project *September 2025 to Present*

- Designed and iterated compact capstan gearbox prototypes in SolidWorks, incorporating a linear actuator for controlled pre-tensioning of cord to achieve required torque within strict packaging constraints
- Leading development of automated torque and fatigue test benches using an **Arduino Nano** integrated with BLDC and stepper motors to support gearbox validation and lifecycle testing

UBC Smart City **Vancouver, BC**

Subteam Lead *September 2024 to Present*

- Managing a 10-member multidisciplinary team to develop a net-zero, wind-turbine-powered smart streetlight
- Modeled wind turbine blades in **SolidWorks** and currently fabricating prototypes via sheet metal bending
- Designed a 3-stage planetary gearbox in **Fusion 360** achieving 300× RPM multiplication for low-wind-speed operation

RC Car Component Design & Manufacturing **Vancouver, BC**

Design Lead *September 2023 to April 2024*

- Designed wheels and shell model in Fusion 360, **3D printed** the shell, and fabricated the shell using thermoforming
- Performed tensile and 3-point bending test to guide chassis and shell material selection

SKILLS

- **CAD and Computer Software**: Siemens NX, GD&T, Creo, SolidWorks, Fusion 360, Vention, ARAS PLM, Microsoft Office
- **Programming and Simulation**: Python, Ladder Logic, Structured Text, MATLAB, VBA, ANSYS, Arena, ABAQUS
- **Manufacturing and Technologies**: CI, 5S, FMEA, DFMA, GR&R, 3D Printing, Arduino, Beckhoff, HMI Design, ESP32