

# Yulia Isaeva

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## EDUCATION

### ONTARIO TECH UNIVERSITY

Bachelor (Hons) of Mechatronics Engineering

Oshawa, Canada

September 2019 - June 2024

**Relevant Coursework:** Fluid Mechanics , Mobile Robotics, Control Systems, Embedded Systems

**Certifications:** GA4, Google Data Analytics Professional Certificate, IBM Machine Learning with Python (Honours) Certificate

## PROFESSIONAL EXPERIENCE

### Krug | Product Engineering Technician

Skills : SolidWorks, B-Solid, Bambu Studio, Excel

Kitchener, Canada

August 2024 - Current

- Designed 100+ custom furniture components in SolidWorks for specialized client projects, ensuring precision.
- Automated CNC router programming to optimize material usage and minimize machining errors.
- Led 3D printing for prototyping mechanical parts with the Bambu Lab X1C, speeding up development by 40%
- Optimized production workflows, resolving 95% of technical issues through data-driven analysis.

### BELCO | AMI Engineering Intern

Skills: SQL, Database Management, ETL, ArcGIS, AMI

Hamilton, Bermuda

May 2021 - August 2021

- Built and optimized SQL databases to track brownouts from 60,000+ meters, improving outage response time.
- Developed and maintained ETL pipelines to automate data integration, reducing manual processing time by 20%.
- Diagnosed and resolved 15+ meter failures daily using ArcGIS and SQL, improving overall system reliability.

## PROJECTS

### Horizon Aircraft - Design & Optimization of an eVTOL Propulsion System | Ansys Fluent/Workbench, SolidWorks, Matlab

- Applied the Y+ boundary layer model to refine turbulence analysis and improve airflow accuracy over rotor blades.
- Conducted 80+ 2D and 3D CFD simulations in ANSYS Fluent to optimize lift, torque, and aerodynamic performance.
- Designed and 3D-modeled five rotor blade configurations in SOLIDWORKS, enhancing thrust and efficiency.
- Used additive manufacturing to prototype blades and validated designs through high-speed testing at 7,800 RPM.

### Mobile Robotics - ROS TurtleBot | Python, Linux, Ubuntu, ROS

- Developed Python-based ROS nodes for lane detection and obstacle avoidance for autonomous decision making.
- Configured and managed ROS in a Linux environment, ensuring efficient software integration for autonomy.
- Evaluated 10+ ROS packages for compatibility, optimizing system functionality across modules.
- Implemented ROS communication protocols to improve data exchange and system synchronization..

## TECHNICAL SKILLS & TOOLS

**Engineering Software:** SolidWorks, Ansys Fluent, Ansys Workbench, Matlab, B-Solid

**Data Software:** Power BI, Google Analytics, Google big query , SAS, Excel

**Languages:** Python, SQL, C++, Matlab, Bash, HTML, JavaScript, CSS, TensorFlow, Node.js