

# Shafwat Khan

Shafwat.khan@mail.utoronto.ca | 647-509-0266 | website in progress

University Of Toronto Mechanical Engineering (PEY)  
L'Amoreaux Collegiate Institute

2024 - present  
2020 - 2024

## SKILLS

Languages	Bangla (mother tongue), English (fluent)
Software	MATLAB, L <sup>A</sup> T <sub>E</sub> X, SOLIDWORKS, LANTEK EXPERT, JAVA, PYTHON, BEGINNER WEB DEV
Machining	DRILL PRESS, 3D PRINTER, BANDSAWS, POWER TOOLS, TABLE SAW, MITER SAW

## WORK EXPERIENCE

### Engineering Support | Sable Metal Fabrication

May 2025 - Aug 2025

- Designed and modified 3D models for custom sheet metal parts using SolidWorks and nested over **30** programs for the laser using Lantek ensuring manufacturability, and efficiency to improve customer satisfaction.
- Conducted thermal and force simulations on real-world components such as a slat-wall shelf, analyzing and optimizing load-bearing capacity and design integrity to improve ease of work in the shop.
- Assisted with a variety of hands-on fabrication tasks, Wiring components, laser bed maintenance, slat-wall installation, 3D printing, and operating a brake press, resulting in a noticeable improvement in job run times.
- Collaborated with shop employees to identify and resolve over **4** major workflow inefficiencies by designing and manufacturing custom creative solutions, resulting in reduced runtime for many customer jobs.

## EXTRA CURRICULAR

### Team Captain | FIRST Robotics Team

Sep 2022 - Jun 2024

- Captained a team of **60** students to design and manufacture **3** robots fit for competing at provincial-level competitions over 2 years, encouraging and inspiring students to pursue engineering in the process.
- Trained **20+** new team members in machining, troubleshooting, and problem-solving under pressure for manufacturing during competition times and build season, improving self confidence and initiative in students.
- Designed various components of the robot using OnShape and SolidWorks, assembled and troubleshooted under time constraints and competition pressure, teaching me about design principles and manufacturability.
- Operated and oversaw the operation of various machines such as bandsaws, drill presses, power tools, 3D printers, and CNC machines to fabricate components of the robot, ensuring safety and efficient tool usage.

### Teacher Assistant | TDSB Reach Ahead

Jul 2023 - Aug 2023

- Evaluated more than **120** assessments submitted by Grade 8 students over one month, maintaining accuracy and fairness in the grading process, leaving constructive feedback to aid in student growth.
- Collaborated with a group of **3** to guide and supervise groups of **10+** students in various science and math activities to increase their interest, demonstrating strong leadership and conflict resolution skills.
- Taught academic concepts that supported the grade 8 students through their transition into high school, such as fractions, algebra, and linear graphing as well as collaboration and important study skills.

## PROJECTS

Slat-wall Fabrication	Designed a Slat-wall using LEAN principals to help with storage space
Arduino Alarm System	Programmed an Arduino and wired up bells to set alarms at specific times
Assembly Optimization	Optimized assembly of existing parts by adding tabs and jigs to the part
I4 engine Shaft	Created the basic shaft and pistons of I4 engine to learn the mechanisms
Stress Simulation	Tested out behavior of parts under different levels of stress and geometry