

MOHAMMAD SHAMAIL

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EDUCATION & PROFESSIONAL DEVELOPMENT

Lassonde School of Engineering - York University

Bachelor of Engineering, Spec. Hons. Mechanical Engineering

Toronto, Ontario

Sep. 2018 – Apr. 2023

Niagara & Halton Skilled Trades Academy

Oakville, Ontario

Licensed Gas Technician (G3 Certified), Piping Installer

Sep. 2021 – Apr. 2022

DS SolidWorks Corporation

Toronto, Ontario

Certified SolidWorks Associate (CSWA – Academic)

Jan. 2020

WORK EXPERIENCE

Engineering Startup (Co-Founder)

Toronto, Ontario

MechTronX Inc, Best Bridge to Startup Program

(8 Months) May. 2023 – Dec. 2023

- Co-founded MechTronX Inc., a startup specializing in **rapid prototyping services** for technology-based startups.
- Forged strategic partnerships and collaborations with startup incubators, including ventureLAB, to expedite the development of early-stage tech startups' **concepts into viable products**.
- Directed a diverse team of engineers and business graduates in achieving business development goals through market analysis, competitive positioning, and strategic growth initiatives, resulting in measurable market success.
- Presented MechTronX's unique business proposition to potential clients, effectively showcasing the advantages of our offerings and securing numerous business opportunities across various sectors and industries.

Electro-Mechanical Engineer

Richmond Hill, Ontario

KROP Farming Technologies Ltd.

(8 Months) Sep. 2022 – Apr. 2023

- Designed and deployed an automated 2-axis cartesian robot with sensor feedback and a **closed-loop control system**.
- Led all technical aspects of the cartesian robot project, including designing custom **CNC-ready parts** in SolidWorks, building **custom PCBs** for electronic control in EAGLE, and developing position feedback system using Simulink.
- Conducted **FEA analysis** to optimize stress distribution in custom parts, and 3D printed final prototypes before CNC.
- Presented final project at Capstone and secured 1st place for developing a project with greatest commercial potential.

Engineering & Contracting Sales, Tender Specialist

North York, Ontario

HTS Engineering

(12 Months) Sep. 2020 – Aug. 2021

- Increased '*winning tenders*' against competitors by a staggering 28% within the span of 1 year by facilitating the tendering process and completing over **200 key projects** across Toronto with an estimated **\$75,000,000** in cost
- On-site inspections** of various HVAC units, proposing improvements and ensuring completion of our scope of work.
- Managed and trained pools of interns across various departments by providing high-value info in relatively short time
- Key Projects:** ICE Condos, Promenade Park Towers, Forest Hill Condos, TDSB Schools, Spadina Sussex Residence

PERSONAL PROJECTS

Honda V6 Functional Engine | SolidWorks Assembly ([mshamail.ca/honda-v6-functional-engine/](https://www.mshamail.ca/honda-v6-functional-engine/))

- Developed a complete and **functional model** of a HONDA V6 four-stroke engine weighing over 165 kg
- Comprised of over **196 individual components** and includes air filters, air turbos, hoses, oil pan, exhausts, etc.
- Tolerance ranges**, appropriate dimensions, ANSI standard screws are followed entirely.
- Performed in-depth **FEA analysis** in **Star CCM+** to analyze the effects of real-life conditions on engine components.

Black Plastic Detection System | LabVIEW, Image Acquisition ([mshamail.ca/black-plastic-detection-system/](https://www.mshamail.ca/black-plastic-detection-system/))

- Developed an engineering solution to the inability to identify *black plastics* in the recycling process by using '**NI Vision Assistant**' package in **LabVIEW** with 'Image Processing Toolbox' in **MATLAB**, and a modified webcam.
- Published **research report** discussing the possibility to reduce plastic waste in our water with cost-effective tech.

TECHNICAL SKILLS & INTERESTS

Software: NI LabVIEW, MATLAB & Simulink, CATIA, ANSYS, SolidWorks, Eclipse, Autodesk Inventor, AutoCAD, Star CCM+, ASHRAE Psychometry, Bluebeam, Microsoft Excel, Microsoft Outlook

Hardware & Tools: Lathes, Mills, 3D Printing, MIG Welding, Soldering, Bandsaw, Grinder, Drills, Mitre Saw, Planers

Interests: Badminton, Cricket, Swimming, Farming, Fishing, Woodworking, Building GoKarts, Learning History

References available upon request.