

Sarah Khan

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EDUCATION

University of Toronto, BSc – Mechanical Engineering, 4th year

Sept 2019 – Apr 2024

Specializations: Mechatronics & Manufacturing

Minors: Engineering Business & Advanced Manufacturing

TECHNICAL SKILLS

PLC, HMI, Fanuc Robotics, SOLIDWORKS, CATIA, AutoCAD, MATLAB, ANSYS, Arduino, Python, C, Machining, Fabrication, HTML, CSS

EXPERIENCE

May '22 – Aug '23

Equipment Engineering Intern, Honda of Canada Mfg. – Paint Department

- Designed and implemented new solution for defect root cause analysis in paint shop. Managed \$100k+ budget from conception to successful installation, implemented PLC programming, and led mass production roll-out leading to \$150k annual cost avoidance
- Led team of engineers, robot technicians, and contractors to bring new proprietary robot end-effector cleaning solution into production. Tasks included conceptual feasibility tests, \$125k+ budget management, parts purchasing, installation, automation, integration with existing paint booth system, and mass production trials saving \$500k+ for the department annually
- Effectively reprogrammed and bully-tested PLC logic for critical door-check photo eye sensor to reverse functionality in preparation for new 2023 CR-V launch
- Safely managed contractors installing HMIs, new receptacle panel receiving high voltage power, and receptacles in highly-flammable paint shop environment
- Followed electrical drawing specification to terminate electrical wiring in control panel for newly automated car carrier pusher equipment
- Interfaced between teaching and vision sub-teams in extracurricular collaborative robot "Cobot" activity - showcased at the Honda Indy race in Toronto

Jul '21 – Aug '21

Consulting Intern, Al-Futtaim Malls – Regional Marketing

- Worked with team of 6 marketing professionals to understand all aspects of business, including digital transformation, data analytics, and large-scale project management
- Collected and analysed data from tenants regarding use of newly-launched rewards application
- Prepared and presented concise report on findings to senior marketing executives

EXTRACURRICULARS

Feb '21 – Sep '22

Powertrain Engineer, University of Toronto Formula Racing Team

- Machined differential mounts to withstand forces exerted by Formula-style race car
- Conducted ANSYS simulation tests on differential mounts to ensure design feasibility
- Designed and assembled accumulator cart in accordance with strict Formula SAE rules

Apr '21 – Sep '22

Vice President – Communications, University of Toronto Robotics Association

- Coordinated association's activities with the Faculty and Engineering Society

Jul '20 – May '22

Member – Skule™ Endowment Fund Committee, University of Toronto Engineering Society

- Managed fund of \$300k+ and analysed funding applications, including detailed budget applications, ensuring projects aligned with the fund's mission

Jul '20 – Apr '21

Chair – Policy and Structures Committee, University of Toronto Engineering Society

- Conducted monthly committee meetings, precisely worded changes to Bylaws, and presented recommendations to Engineering Society Board of Directors

May '20 – Apr '21

Sponsorship Director & Webmaster, University of Toronto Robotics Association

- Applied new front-end development skills to maintain and expand www.utra.ca

AWARDS

University of Toronto Engineering Society Centennial Award: Given annually to 1 person in 2nd year who demonstrated commitment and dedication to the Engineering Society through involvement