

Sarvnaz Ale Mohammad

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EDUCATION

BACHELOR OF ENGINEERING SCIENCE (BaSc) | UNIVERSITY OF TORONTO SEP 2022-APR 2026

- Second year student, 3.98 cGPA
- Courses: Data Structures and Algorithms, Digital and Computer Systems, Engineering Design
- Activities: Women in Science and Engineering UofT (Panels Director), member of Robotics for Space Exploration (member), Inclusivity, Diversity & Equity Advisory Committee (member).
- Awards: NSERC STEAM Horizons (\$25000), McKinsey Canada Women in STEM Leadership Award (\$2500)

INTERNATIONAL BACALAUREATE (IB) STUDENT | ST. ROBERT CHS SEP 2018-JUN 2022

- 4.0 GPA, 100% average, 45/45 IB Score (top 1% of all 170k IB students world-wide).
- Activities: Social Justice Council (President), Debate Society (Co-President), Robotics (Senior Lead).

SKILLS

- **Languages:** Python, Java, C++, MATLAB, Dart, Arduino
- **Technologies:** NumPy, SciPy, PyTorch, Matplotlib, Plotly, TensorFlow, Tkinter, WxPython, Git

EXPERIENCE

RESEARCH ASSISTANT | MOUNT SINAI HOSPITAL CATH LAB MAY 2023 -AUG 2023

- Developed algorithm using **Python** and **NumPy** to autonomously extract patient physiological parameters from Ballistocardiograph cardiac signal, enabling advanced monitoring of heart failure patients.
- Refactored and modularized analysis pipeline to seamlessly transition between various clinical trial data.
- Validated algorithm against electrocardiograph signals, achieving **93% accuracy** and high agreement.
- Won Best Abstract in Translational Research (Transform HF Showcase, \$250 prize), Best Presentation (UNERD Conference), First Place (with lab, [Transform HF Ideathon, \\$12750 prize](#)).

RESEARCH ASSISTANT | HYBRID BIOMEDICAL OPTICS LAB (YORKU) JUN 2022 -AUG 2022

- Worked on [AfimaCheck](#), a saliva-based Cannabis detection system using thermal cameras.
- Automated data acquisition from thermal camera to detect the presence of target chemicals using **C++**.
- Processed raw frame data and performed image analysis using **NumPy** and **MATLAB**.

PROJECTS

SOFTWARE DEVELOPER | iGEM SYNTHETIC BIOLOGY DESIGN TEAM FEB 2023- PRESENT

- Simulated bacterial metabolic networks using **Python** to guide team's synthetic biology experiments.
- Independently reproduced state-of-the-art gene over-expression prediction algorithm based on research paper with no published code.
- Research project to be presented at international iGEM Jamboree in Paris, November 2023.

CO-FOUNDER | CONCHSHELL APR 2020-JUN 2022

- Co-founded a start-up to build a wearable bracelet translating American Sign Language to spoken voice.
- Developed a machine learning pipeline to recognize ASL in a real-time video feed using **PyTorch**.
- Built an end-to-end prototype using a Raspberry Pi and Google's text to voice API.
- Conducted extensive market research, developed product strategy, won **\$16500** in seed funding.
- **Canada-Wide Science Fair 2021:** Silver Medal, UofT Engineering Award, Engineering & Innovation Award
- **Winner of the Ryerson DMZ Basecamp program 2020**, awarded \$5000 grant as funding.
- **Winner of the Social Impact Challenge 2021** (300+ competitors), awarded \$10000.
- Covered by the [National Observer](#), [Toronto Star](#), [York Region News](#), and [CityNews](#).