

# Arish Shahab

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## EDUCATION

### McMaster University

Integrated Biomedical Engineering and Health Sciences (BHSc)

Hamilton, Ontario, Canada

Expected Graduation: May 2029

### Garth Webb Secondary School

Ontario Secondary School Diploma

Oakville, Ontario, Canada

Sept 2020 - June 2024

**GPA:** 4.0/4.0 | **Relevant Coursework:** Calculus & Vectors, Adv. Functions, Chemistry, Biology, Physics, Computer Science, Kinesiology

**Honors/Awards:** Harvard University International Research Olympiad (13th Globally), DECA Case Study Competition (10th out of 30,000 participants), University of Waterloo Sir Isaac Newton Physics Competition (1st), University of Waterloo Financial Literacy Competition (1st out of 1400 participants), University of Toronto OAPT Physics Contest (18th out of 1000 Participants)

**Extracurriculars:** DECA Ontario (Executive Director), Sports Science Club (President), Muslim Student Association (Executive Director), Mathstronauts STEM (Teacher Assistant)

## EXPERIENCE

### Hamilton Health Sciences | Juravinski Hospital

Hamilton, Ontario, Canada

Orthopaedic Clinical Research Intern

July. 2024 – Present

- Conducted a multi-centre longitudinal study on wait times for **hip/knee** replacements in **osteoarthritis** patients under Dr. Thomas Wood
- Monitored **pre-operative** and **post-operative** pain, functional ability, and opioid use through the administration of standardized questionnaires, including the **H/KOOS-JR** and **EQ5D**.
- Conducted **data abstraction** from clinical charts and entered data into the **REDCap** system, maintaining high accuracy and confidentiality.

### Trillium Health Partners (THP)

Mississauga, Ontario, Canada

Renal Dialysis Patient Support

May. 2024 – Present

- Managed **electronic health records (EHR)** for dialysis patients, ensuring accurate and timely documentation of treatment parameters and patient responses.
- Monitored and recorded patient vital signs, including **blood pressure, heart rate, and weight**, before, during, and after dialysis sessions.
- Utilized knowledge of renal physiology and dialysis principles to troubleshoot and resolve technical issues with dialysis machinery.

### University of Waterloo

Waterloo, Ontario, Canada

Scientific Product Researcher

Mar. 2024 – Present

- Conducted a comprehensive **literature review** on wearable biotechnologies, specializing in **automated medication injectors**, under Prof. George Shaker's guidance. Analyzed cutting-edge advancements, focusing on the **design, efficacy, and safety** of automated injectors to enhance patient care and medication adherence.
- Utilized **MATLAB** for data analysis and simulation tasks, furthering development of automated injectors.

### Shoppers Drug Mart

Oakville, Ontario, Canada

Pharmacy Assistant

Sept. 2022– Present

- Support pharmacists in dispensing medications by measuring and packaging over **750+ prescriptions** per shift.
- Verified prescription information, patient details, and insurance coverage.

## PROJECTS & RESEARCH

**Aqua Boost | Frameworks & Languages Used:** Python, MATLAB, Raspberry PI, Arduino IDE, Flutter

- Developed a **wearable** hydration monitoring system using **bioimpedance sensors** for real-time hydration tracking and analysis.

### Gene Editing for Bone Health

- Leveraging **CRISPR** gene editing alongside the significant **LRP5 gene** presents potential for scientific advancements, personalized medicine, and agricultural progress. Initiated a pilot study to evaluate the efficacy and safety of the gene-editing approach

### Impact of Diet on Cognitive Function

- Explored correlations between dietary patterns and cognitive function, focusing on nutrient-specific impacts and dietary behaviors on cognitive acuity and decline through **evidence-based analysis**.

## CLINICAL OBSERVERSHIP

Dr. Evis Skendaj MD, Family Medicine, Royal Oak Clinic

Dr. Sharn Bhandal MD, Nephrologist, Trillium Health Partners

Dr. Thomas Wood MD, Orthopaedic Surgery, HSS Juravinski Hospital

Antonio Ajhert, PharmD, Pharmacist, Shoppers Drug Mart

## ADDITIONAL INFORMATION

### Technical Skills:

**Medical:** PCR, Gel Electrophoresis, Dilution, Titration, Medication Dispensing, Medication Compounding **Developing Languages:** Python, Java, HTML/CSS, R Studio, JavaScript, Swift, MATLAB, Simulink **Developer Tools:** VS Code, Android Studio, MS Office, AutoCAD, SOLIDWORKS **Technologies / Frameworks:** Linux, GitHub, React, Figma, REDcap, Epic