

FATEMA WALIA SAARAH HOSSAIN

📍 London, ON N6H 4P4 | ☎ [226-998-2848](tel:226-998-2848) | ✉ fwsara.h95@gmail.com

🌐 [linkedin.com/in/fwsarah95](https://www.linkedin.com/in/fwsarah95) | 🏠 github.com/fwSara95h

PROFESSIONAL SUMMARY

Software engineering graduate passionate about data-driven automation that improves everyday lives. Experienced in building and analyzing systems in health tech and research settings, as well as for customer-facing products. Combines technical rigor with a focus on usability and equity, aiming to develop tools that streamline processes, surface insight, and support people where it matters most.

SKILLS

Programming Languages	• Python	• JavaScript	• C++
	• MySQL	• NodeJS	• x86 assembly
	• T-SQL	• R	• Verilog
	• HTML	• TCL	
Tools & Technologies	• UiPath	• Simulink	• SolidWorks
	• Synopsys	• Multisim	• AutoCAD
	• LTspice		
Software & Platforms	• Google Cloud Platform	• Android Studio	• Visual Studio
	• Kubernetes	• VS Code	• IntelliJ
Python Libraries	• TensorFlow	• NumPy	• BeautifulSoup
	• PyTorch	• Pandas	• Selenium
	• Scikit-learn		

EDUCATION

10/2024 **MEng: Software Engineering, GDip in Engineering Leadership and Innovation**

University of Western Ontario (UWO) - London, Ontario

Completed modules related to: Data Management, Data Analytics, Machine Learning, Embedded Systems, Cloud Computing, Cybersecurity, Communication, Leadership, Risk Assessment, Project Management

08/2019 **BSc: Electronics Engineering**

Princess Sumaya University for Technology (PSUT) - Amman, Jordan

Completed modules related to: VLSI, Electronics, Telecommunications, Digital Logic, Microprocessors and Computer Architecture, Programming

WORK EXPERIENCE

03/2024 to

Software & Business Analytics Intern

08/2024

MVT in Silico Corp. – London, Ontario, Canada

- Modeled cerebral blood-flow dynamics in Python using custom numerical models with numpy, scipy, and matplotlib, based on biomedical research models.
- Analyzed competitor landscape and commercialization strategies to inform positioning of early-stage MedTech software.
- Coordinated interdisciplinary team for pitch competitions, managing deliverables, aligning schedules, and drafting core messaging.

09/2019 to

Technology Specialist in AI & Data Science

08/2020

Loosely Coupled Technologies – Kuala Lumpur, Malaysia

- Engineered NLP and predictive models in R to automate workflows and reduce chatbot response times by 40%.
- Designed interfaces with HTML, CSS and JavaScript+Angular for customizable chatbot training, enhancing accessibility for non-technical users.
- Automated reporting tasks using UiPath and Python, saving up to 20 hours of manual effort weekly.
- Built NodeJS webhooks and SQL Server services to securely connect client systems for order and data management.

07/2018 to

Undergraduate Intern

08/2018

PrimeSilicon Technologies Ltd – Dhaka, Bangladesh

- Shadowed engineers to study ASIC flow including RTL, layout, STA, and timing constraints using Verilog and UNIX environments.
- Scripted timing analysis solutions in TCL to automate slack verification and delay cell optimization across ASIC designs.

LANGUAGES

English



Native or Bilingual

French



Limited Working

Hindi



Elementary

Bengali



Native or Bilingual

Arabic



Limited Working

PROJECTS

Graduate Project **Cloud-Native To-Do Application** – using *GCP, MySQL, Python, Docker, Kubernetes*

- Built and deployed a full-stack containerized app with Flask, MySQL, and Nginx on Google Kubernetes Engine.
- Automated database initialization and managed container images using Cloud SQL, ConfigMaps, and Google Container Registry.
- Enabled flexible deployment across development, production, and disaster recovery environments using modular Kubernetes manifests.
- Demonstrated cloud-native design, data pipeline integration, and scalable infrastructure management.

Graduate Project **Transfer Learning for Lung X-Ray Classification** – using *Python, Machine Learning*

- Utilized transfer learning with CNNs to classify lung X-rays as COVID-19, viral pneumonia, & normal.
- Achieved classification accuracy of 96.95% using fine-tuned AlexNet with novel preprocessing steps.
- Enhanced performance by developing preprocessing techniques that maintained gray-level information.

Loosely Coupled **Cheque Encashment Automation (Prototype)** – using *Python, UiPath*

Technologies

- Automated cheque processing using Python and UiPath, reducing identity verification time by 75%.
- Implemented ML algorithms for feature extraction from cheques, achieving 95% verification accuracy.
- Demonstrated how bank's existing infrastructure would improve for seamless workflow.

Undergraduate **Hardware Logic Encryption Block for Sequential Circuits** – using *Synopsys, Verilog*

Capstone Project

- Designed and simulated encryption block for LVDS, enhancing communication system security.
- Achieved 1Gb/s data processing speed and power efficiency in a compact design (<500 μm^2).
- Reduced power consumption to below 0.5% of transceiver's total usage.

COMMUNITY ENGAGEMENT & OTHER EXPERIENCE

04/2025 to

Present

[Volunteer] Personal Disaster Assistance (PDA) Responder

Canadian Red Cross – London, Ontario

- Participated in emergency call-outs, collecting intake information and submitting confidential client service reports to HQ.
- Helped individuals affected by home fires and other personal disasters access temporary shelter, food, and essentials.
- Maintained on-call readiness through required training, and supported compassionate, timely local response with adherence to Red Cross protocols.

03/2025 to

Present

[Volunteer] Library Services Team Member

London Muslim Mosque – London, Ontario

- Check out books and register new patrons, using a computer-based circulation system, and foster a welcoming space for library users.
- Assist new volunteers in learning the digital catalog and service procedures.

06/2021 to

03/2022

[Part-Time, Overnight] CAP3 Associate

Walmart Canada – London, Ontario

- Worked overnight shifts in pairs to stock shelves, rotate products, & maintain accurate backroom inventory levels.
- Ensured sales floor readiness by organizing displays, correcting shelf labels, and following merchandising plans.
- Conducted regular inventory checks and assisted in unloading freight, maintaining safety and efficiency standards.

12/2017 to

11/2018

[Student Volunteer] Curator & Event Coordinator

Princess Sumaya University for Technology – Amman, Jordan

- Curated speaker lineup and planned event logistics for **TEDxPSUT 2018**.
- Led the event planning process, from venue selection to scheduling and audience engagement strategies, ensuring a seamless and impactful experience.

07/2012 to

12/2012

[Volunteer] Librarian's Assistant

Ilma International Girls' School – Colombo, Sri Lanka

- Digitized and reorganized school library records using Microsoft Access and the Dewey Decimal System.
- Assisted the librarian with cataloguing and inventory upkeep.