Contact

ffaria431@gmail.com

www.linkedin.com/in/faria-j-0a58b8109 (LinkedIn)
metrics-lab.ca/ (Company)

Top Skills

Bash Scripting
Linux Command Line
Shell Programming Logic

Languages

Bengali (Native or Bilingual)
English (Native or Bilingual)

Certifications

Compute Ontario 2022 Summer School
Simscape Onramp
Reinforcement Learning Onramp
Deep Learning Onramp
Learning Linux Command Line

Honors-Awards

Summa Cum Laude
Magna Cum Laude
Distinguished Student Leader in Engineering
Honourable Mention

Publications

C-arm and Patient Table Integrated Kinematics and Surgical Workspace Analysis
Trajectory Planning for Multiple Degrees of Freedom C-arm Systems
Evaluation of SAR and Temperature Elevation in Human Head for Advanced Wireless Services (AWS) Application
Novel Design of Miniaturized Triple band Square Microstrip Patch Antenna with F Slot for Fixed Service

Faria Jaheen

Research Assistant in AI (METRICS Lab, uOttawa) | Bridging Robotics and Medical Applications with AI | GenAI | Reinforcement Learning | Mentoring Future Engineers in Professional Skills | EDI Advocate | Lifelong Learner

Ottawa, Ontario, Canada

Summary

Faria Jaheen is an accomplished early-career graduate student with a distinguished background in research spanning decades across Asia and North America. She holds specialized training in computer-assisted surgery from the School of Electrical Engineering and Computer Science (EECS) at the University of Ottawa, Canada. Recipient of prestigious accolades, including an International Doctoral Scholarship and an Admission Scholarship for her PhD studies in Artificial Intelligence applied to surgical workflow data, Faria has demonstrated academic excellence throughout her career. Prior to her doctoral pursuits, she graduated with Summa & Magna Cum Laude distinctions from the American International University-Bangladesh.

Faria's dedication extends beyond academia, as she excelled as the Overall Lead Teaching Assistant for the Engineering Graduate course “ELG/GNG 5301: Professional Skills and Responsibility” for four consecutive semesters. In this role, she demonstrated exceptional leadership and mentorship skills providing guidance to engineering graduate students across diverse disciplines and fostering a collaborative learning environment.

Beyond her scholarly pursuits, Faria is actively engaged in various academic and professional organizations. Notably, she serves as Vice President of the Electrical Engineering Graduate Students' Association (EEGSA) and has held dual roles as Secretary & Treasurer and Web coordinator in the uOttawa ACM-W Student Chapter, advocating for equity, diversity, and inclusion (EDI) in the computing field. Moreover, she has been contributing her time and expertise as a steward at the Canadian Union of Public Employees local 2626 (CUPE 2626) further demonstrating her commitment to promoting fairness and representation within her academic community.

Satellite and Microwave C band Applications

Slot Loaded Square Microstrip Patch Antenna for Dual Band Operation

Her dedication to educational excellence and mentorship has left a lasting impact on the engineering community, solidifying her position as a dynamic and influential figure in her field.

Experience

University of Ottawa

6 years 3 months

Overall Lead Teaching Assistant

September 2025 - Present (3 months)

Ottawa, Ontario, Canada

PHD Candidate (AI Researcher)

September 2019 - Present (6 years 3 months)

Ottawa, Ontario, Canada

• Directed the development of AI-driven kinematic and trajectory-planning frameworks for modular 6–9 DoF C-arm fluoroscopy systems integrated with surgical tables, enabling precision imaging and explainable robotic motion control.

• Engineered generative and agentic AI architectures (Transformers, GANs, VAEs) to model complex multi-joint robotic systems performing collision-free workspace analysis across six clinical projections (more than 130K poses).

• Architected scalable ML pipelines combining analytical inverse kinematics and deep neural networks achieving more than 95 % accuracy and 30% runtime reduction via GPU acceleration.

• Deployed end-to-end AI and simulation pipelines on Azure ML Studio, containerized with Docker/Kubernetes, and implemented MLOps automation to streamline continuous validation and Continuous Integration and Continuous Delivery integration processes.

• Architected cloud-native micro-services using Azure App Service, AWS, and API Management to operationalize
research models for healthcare and robotics.

• Designed large-scale AI pipelines using Python, TensorFlow, and PyTorch, deployed via Azure ML Studio and Kubernetes.

• Collaborated with interdisciplinary teams to transform legacy MATLAB and ROS systems into scalable intelligent solutions, reducing computation latency.

• Authored peer-reviewed AI/ML publications on scalable kinematic modelling advancing explainable AI in high-stakes environments such as clinical imaging optimization.

Overall Lead Teaching Assistant
September 2024 - Present (1 year 3 months)
Ottawa, ON

• Directed academic delivery for "ELG/GNG 5301: Professional Skills & Responsibility" across 7 consecutive semesters, leading 3 to 7 Teaching Assistants and mentoring over 1,200 graduate engineering students from all disciplines.
• Integrated hands-on modules merging Arduino-based projects, leadership, ethics, and communication, promoting experiential learning and applied innovation.
• Collaborated with faculty leadership to modernize curriculum and embed hybrid instructional models, optimizing delivery for in-person and virtual learning environments.
• Advanced academic integrity and research communication through seminars on technical training, documentation, plagiarism awareness, and literature review methodology.
• Designed and facilitated graduate-level workshops on professional skills, technical project execution, applied innovation, and hands-on training with emerging technologies such as Arduino.

Overall Lead Teaching Assistant
September 2023 - April 2024 (8 months)
Ottawa, ON

• Directed academic delivery for "ELG/GNG 5301: Professional Skills & Responsibility" across 5 consecutive semesters, leading 6 Teaching Assistants and mentoring over 400 graduate engineering students from all disciplines.
• Integrated hands-on modules merging Arduino-based projects, leadership, ethics, and communication, promoting experiential learning and applied innovation.
• Collaborated with faculty leadership to modernize curriculum and embed hybrid instructional models, optimizing delivery for in-person and virtual learning environments.
• Advanced academic integrity and research communication through seminars on technical training, documentation, plagiarism awareness, and literature review methodology.
• Designed and facilitated graduate-level workshops on professional skills, technical project execution, applied innovation, and hands-on training with emerging technologies such as Arduino.

Lead Teaching Assistant
September 2022 - April 2023 (8 months)

Ottawa, ON

Teaching Assistant
September 2021 - December 2021 (4 months)
Ottawa, ON

• Managed full operations (i.e., tutorial design, grading frameworks, and Brightspace coordination) of Circuit
Theory course ensuring alignment with program outcomes and university standards.

Teaching Assistant
September 2020 - December 2020 (4 months)
Ottawa, ON

• Managed full operations (i.e., tutorial design, grading frameworks, and Brightspace coordination) of Circuit
Theory course ensuring alignment with program outcomes and university standards.

Wiingy
STEM Educator
May 2024 - October 2025 (1 year 6 months)

• Designed and delivered advanced courses on Machine Learning, Generative AI, and data-driven decision making for young to adult learners in engineering.
• Built case-based labs using LangChain, OpenAI, and Python backends, including practical demonstrations of agentic AI workflows.
• Provided advisory to engineering professionals on deploying AI securely in workplace contexts.

STEMWorld Educational Services Inc.
STEM Applications Developer
May 2021 - July 2021 (3 months)
Ottawa, ON

• Developed interactive learning applications for AI and robotics education.
• Ensured scalability and compliance by designing secure microservices and using containerized ML environments.

Uttara University
Lecturer
January 2015 - January 2016 (1 year 1 month)
Bangladesh

• Taught science courses to undergraduate business students, translating technical and physical concepts into accessible applications for non-engineering learners.
• Developed interactive lab demonstrations and curriculum modules bridging STEM principles with business innovation and data literacy.
• Recognized by academic leadership for clear, engaging, and interdisciplinary instruction.

Atish Dipankar University of Science and Technology
Lecturer
February 2014 - December 2015 (1 year 11 months)
Bangladesh

Faculty of Engineering (Electrical & Electronics Engineering)

• Delivered undergraduate Electrical Engineering courses in circuit theory, electromagnetics, and digital systems.
• Supervised senior design projects leveraging MATLAB and CST simulations, guiding students from proposal to prototype presentation.
• Collaborated with departmental faculty to modernize lab infrastructure and align the EEE curriculum with ABET-style outcomes.
• Achieved student success through project-based learning emphasizing applied research and technical communication.

Education

University of Ottawa
Doctor of Philosophy - PhD, Electrical and Computer Engineering · (2019 - 2023)

American International University-Bangladesh
Master of Science - MS, Electrical and Electronics Engineering · (2015 - 2018)

American International University-Bangladesh
Bachelor of Science (B.Sc.), Electrical and Electronics Engineering · (2009 - 2013)

Narayangonj Govt Mohila College
Higher Secondary Certificate, Science · (2007 - 2008)

Narayangonj Govt. Girls' High School

Secondary School Certificate, Science · (2001 - 2006)