

Taha Koleilat

Curriculum Vitae

Department of ECE
Concordia University
☎ +1 (514) 821-3761
✉ tahakoleilat@gmail.com
🌐 My Webpage
🐙 Github in LinkedIn

Education

- 2024–present **PhD, Electrical & Computer Engineering**, *Concordia University*, Montreal, Canada.
Deep Learning, Computer Vision, Natural Language Processing, Multi-modal Learning, Foundation Models, Medical Image Analysis
- 2023–2024 : **Master of Applied Science, Electrical & Computer Engineering**, *Concordia University*, Montreal, Canada.
CGPA : 4.00/4.30
Coursework Medical Image Processing, Applied Machine Learning & Evolutionary Algorithms, Biological Signal Processing, Deep Learning
- 2019–2023 : **Bachelor of Engineering, Computer & Communications Engineering**, *American University of Beirut*, Beirut, Lebanon.
CGPA : 4.0/4.0
Coursework Introduction to Machine Learning, Computer Networks, Cryptography & Network Security, Software Engineering, Mobile Networks & Applications, Internet Security, Control Systems, Communication Systems, Embedded & IoT Systems, Advanced Optimization Techniques
Minor Economics

Publications

In Conference Proceedings

- **Taha Koleilat**, Hojat Asgariandehkordi, Hassan Rivaz, and Yiming Xiao, “MedCLIP-SAM: Bridging Text and Image Towards Universal Medical Image Segmentation,” in *27th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, 2024, (Acceptance rate: \simeq 30%).
- Martin Fleischmann, Gowri Sankar Ramachandran, **Taha Koleilat** and Raja Jurdak, “Cyber-Social Consensus: Proposing a Human-in-the-Loop Algorithm for Automated Decision-Making in Multi-Stakeholder Settings,” in *35th Australasian Conference on Information Systems*, 2024

Research Experience

Graduate Research Assistant, IMPACT and Health-X Labs

- September 2023 – present ***Developing Novel Methodologies for Deep Learning in Medical Applications.***
Working at the intersection of Images and Text to bring forth generalizable foundation models
1. Training and adapting Vision-Language models for Biomedical data representation
 2. Building versatile foundation models for biomedicine that can be utilized for a wide range of downstream tasks
 3. Implementing data-efficient cross-modal learning techniques to bridge the gap between medical imaging and textual data for enhanced diagnostic insights

Supervisors :

- **Dr. Hassan Rivaz**, Full Professor & Concordia University Research Chair, Department of Electrical & Computer Engineering, Concordia University, ([Personal Web-page](#))
- **Dr. Yiming Xiao**, Assistant Professor, Computer Science & Software Engineering, Concordia University, ([Personal Web-page](#))

Research Intern, Trusted Networks Lab

May 2022 – ***Designing a novel Consensus Protocol for Supply Chain Scenarios utilizing Email services.***

Oct 2022 Proposed a new approach for “Cyber-Social Consensus” that runs on a dApp using Web3.py with a Tkinter GUI and combines Email services on top of deployed Solidity Smart Contracts to automate supply chain voting processes rendering decision-making fair and reliable.

Supervisor **Dr. Raja Jurdak**, Professor of Distributed Systems & Chair in Applied Data Sciences, Queensland University of Technology

Work Experience

Artificial Intelligence Engineer, Radical AI

April 2024 – ***Designing and Developing new tools for Education using LLMs.***

present

1. Leveraging technologies such as OpenAI and Google Gemini for developing AI tools
2. Developing ReX, an AI Coach who serves as a steadfast career companion for learners, offering personalized coaching, mentorship, and support throughout the various phases of their career lifecycle
3. Integrating novel features into Kai, an AI educator that ingests different documents to generate summaries, multiple-choice questions, and syllabi.

Awards

2024 Received the ***Gold Level IEEE TMI Distinguished Reviewer Certificate*** as an acknowledgment of my significant contribution to the journal.

2024 Recipient of the ***International Tuition Award of Excellence*** which reduces the tuition to the Quebec rate

2023 Recipient of the ***Concordia Merit Scholarship*** entrance award for Master's students

2023 Graduated from the American University of Beirut with ***High Distinction***

2023 Received the ***Dean's Award for Creative Achievement*** for our project titled “COVID-19 Indoor Access Rules Verification using ML” which was placed 1st among 30 other groups in Computer Engineering.

2022 – 2023 Recipient of the ***Nabil Zuhair Haddad Scholarship*** to provide additional financial support to qualified students who excel academically pursuing degrees in Engineering

2021 – 2022 Recipient of the ***Dr. Saad Hamdi AlZaim and Family Scholarship*** to provide additional financial support to qualified students who excel academically pursuing degrees in Engineering

2021 Recipient of ***MEPI-TLS Scholarship*** awarded by AUB Tomorrow's Leaders Gender Scholars Program

2020 – 2021 Recipient of the ***A.M. Rabbat Endowed Scholarship*** to provide additional financial support to qualified students who excel academically pursuing degrees in Engineering

2019 – 2023 Placed on the ***Dean's Honor list*** for all semesters attended at the American University of Beirut.

Computer skills

Languages Java, Python, C/C++, SQL, JavaScript, Solidity, R, L^AT_EX

Frameworks PyTorch, TensorFlow, Django, Flask

Tools Git, Docker, Google Cloud Platform, Overleaf, Visual Studio, PyCharm, IntelliJ, Eclipse, Excel

Libraries OpenCV, Scikit-learn, pandas, NumPy, Matplotlib

Position of Responsibility

2024-present **Reviewer for IEEE Transactions on Medical Imaging (TMI)**, Concordia University.

2023-present **Student member of Quebec Bio-imaging Network (QBIN)**, Concordia University.

Teaching

Fall, 2024 **COMP 248: Object Oriented Programming I**, Concordia University.

Fall, 2024 **COMP478/6771: Image Processing**, Concordia University.

Spring, 2024 **ELEC366: Telecommunication Networks**, Concordia University.

Spring, 2022 **EECE311: Electronic Circuits**, American University of Beirut.