

Taha Koleilat

Curriculum Vitae

Department of ECE
Concordia University
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🌐 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: $\simeq 30\%$).

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 Multimodal Language-Image Networks for Biomedical Data Representation
2. Developing data-efficient segmentation methods for medical images through pseudo-masks
3. Utilizing Activation-based Saliency Maps to light up regions of abnormalities found within medical scans

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 – present ***Designing and Developing new tools for Education using LLMs.***
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 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, \LaTeX
- 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 **COMP478/6771: Image Processing**, Concordia University.
Spring, 2024 **ELEC366: Telecommunication Networks**, Concordia University.
Spring, 2022 **EECE311: Electronic Circuits**, American University of Beirut.