

Education

Mila, University of Montreal

Montreal, Quebec

PhD. Computer Science, Advisor: Aishwarya Agrawal

Courses: Reinforcement Learning and Optimal Control

09/2024 –

University of Saskatchewan

Saskatoon, Canada

MSc. Computer Science (Overall grade 88%)

Advisor: Michael Horsch, Roy Ka-Wei Lee

Thesis: Tackling Social Value Tasks with Multilingual NLP [pdf]

01/2021 – 12/2022

Noakhali Science and Technology University

Noakhali, Bangladesh

BSc. Computer Science

03/2014 – 12/2018

Publication

Google Scholar: <https://scholar.google.com/citations?user=o0cLfUMAAAAJ&hl=en>

1. “CTRL-O: Language-Controllable Object-Centric Visual Representation Learning.” Anikter Didolkar*, Andrii Zadaianchuk*, **Rabiul Awal***, Maximilian Seitzer, Efstratios Gavves, Aishwarya Agrawal. *Co-first author, order is random
In submission CVPR2025. Accepted to AFM Workshop, NeurIPS 2024.
2. “BigDocs: An Open and Permissively-Licensed Dataset for Training Multimodal Models on Document and Code Tasks.” Juan A. Rodriguez*, Xiangru Jian*, Siba Smarak Panigrahi*, Tianyu Zhang*, Aarash Feizi*, Abhay Puri*, Akshay Kalkunte Suresh*, François Savard†, Ahmed Masry†, Shravan Nayak†, **Rabiul Awal†** et. al. (28 additional authors) *Co-first authors, †co-second authors.
In submission ICLR 2025. Accepted to RBFM Workshop, NeurIPS 2024.
3. “VisMin: Visual Minimal-Change Understanding.” **Rabiul Awal***, Saba Ahmadi*, Le Zhang*, and Aishwarya Agrawal. *Co-first author
The Conference on Neural Information Processing Systems (NeurIPS), 2024. [pdf] [website]
4. “Benchmarking Vision Language Models for Cultural Understanding.” Shravan Nayak, Kanishk Jain, **Rabiul Awal**, Siva Reddy, Sjoerd van Steenkiste, Lisa Anne Hendricks, Karolina Stanczak, Aishwarya Agrawal.
The Conference on Empirical Methods in Natural Language Processing (EMNLP), 2024. [pdf] [website]
5. “Contrasting Intra-modal and Ranking Cross-modal Hard Negatives to Enhance Visio-linguistic Compositional Understanding.” Le Zhang, **Rabiul Awal**, Aishwarya Agrawal.
IEEE / CVF Computer Vision and Pattern Recognition Conference (CVPR), 2024. [pdf] [code]
6. “Evaluating GPT-3 Generated Explanations for Hateful Content Moderation.” Han Wang, Ming Shan Hee, **Rabiul Awal**, Roy Ka-Wei Lee, and Kenny Tsu Wei Choo.
International Joint Conference on Artificial Intelligence (IJCAI), 2023. [pdf] [code]
7. “AngryBERT: Joint Learning Target and Emotion for Hate Speech Detection.” **Rabiul Awal**, Rui Cao, Roy Ka-Wei Lee, Sandra Mitrović.
Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD), 2021. [pdf] [code]

Experience

ServiceNow Research, Multimodal Team <i>Visiting Researcher, Advisor: Sai Rajeswar</i>	<i>Montreal, Canada</i> 07/2024 –
Mila - Quebec AI Institute, University of Montreal <i>Research Intern, Advisor: Aishwarya Agrawal</i>	<i>Montreal, Canada</i> 01/2023 – 08/2024
Mitacs, LST Accelerate Program <i>Machine Learning Intern</i>	<i>Saskatoon, Canada</i> 03/2022 – 09/2022
Social AI Studio, SUTD <i>Student Researcher, Advisor: Roy Ka-Wei Lee</i>	<i>Remote</i> 06/2020 – 11/2022
Goava Sales Intelligence AB <i>Software Engineer</i>	<i>Dhaka, Bangladesh</i> 01/2019 – 12/2020

In-progress research

- Reasoning for Controllable Image Editing (autoregressive image generation, automating user conditioning for faithful editing, multi-task transfer for image editing)
- Pluralistic Value Alignment in Multimodal AI (diverse cultural values and cultural norms preference datasets; alignment tuning)

Awards

Selected for CIFAR DLRL Summer School at Toronto	2024
Selected for Upper Bound Talent Bursary at Alberta (\$1500)	2024
Selected for Alberta University AI Week Talent Bursary (\$1500)	2022
Graduate Teaching Fellowship @UofS, Canada	2021
1st place at NSTU Intra University Programming Contest, Dhaka, Bangladesh	2016
3rd place at CoU Regional Programming Contest (CoURPC), Comilla, Bangladesh	2015

Service & Leadership

Reviewers: ECCV24, CVPR24, ACL23, SIGIR22, AACL22, ICDM21	
Organizer: Language Grounding Reading Group at Mila	2023 –
MSc Representative: Computer Science Graduate Council @UofS	2021–2022
Organizer: NLPDhaka Reading Group	01/2021 – 12/2022
President: Computing Club @NSTU, Noakhali, Bangladesh	01/2017 – 06/2018

Skills & Interests

Research: Object-centric Representation Learning, Generative Models, AI in Physical World
Skills: Python (PyTorch, Tensorflow), Java, C/C++, NoSQL (Elasticsearch), AWS (SageMaker, EC2, Lambda)