Md. Tahmid Hasan Fuad

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About Me

Computer Science researcher and Machine Learning Engineer with expertise in NLP, LLMs, and Computer Vision. Currently pursuing a thesis-based MSc at the University of Manitoba, I work at the intersection of research and real-world AI applications, with publications at venues including ACL and EMNLP and industry deployments of LLM systems. My current research focuses on LLM-based misinformation detection from social media and deepfake detection.

Education

University of Manitoba, Winnipeg, MB, Canada

- Thesis-based MSc in Computer Science (Jan 2026–Present)

Khulna University of Engineering & Technology, Khulna, Bangladesh

- B.Sc. in Computer Science and Engineering (2018–2023)

Publications

Conference Papers

- FH Raquib, AMR Mazumder, **MTH Fuad**, MF Ishmam, F Sultana, M Fahim, MA Amin, AA Ali, AKMMA Rahman. "BANHADEX: Towards Explainable Hate Speech Detection in Bangla Using Human Annotated Explanation." *Proceedings of the 64th Annual Meeting of the Association for Computational Linguistics (ACL 2026), 2026.*
- MA Mia, AMR Mazumder, KS Sayma, M Fahim, **MTH Fuad**, MI Khan et al. "Banmime: Misogyny Detection with Metaphor Explanation on Bangla Memes." *Proceedings of EMNLP 2025, 2025.*
- S Shahriar, **MTH Fuad**, M Fahim, MA Hossain. "P6Jiggasha: Benchmarking Large Language Models on Bangla Physics Question Answering with Cross-lingual Evaluation." *Proceedings of the Second Workshop on Bangla Language Processing (BLP-2025), 2025.*
- FH Raquib, AMR Mazumder, **MTH Fuad**, MF Ishmam, M Fahim. "BANHATE: An Up-to-Date and Fine-Grained Bangla Hate Speech Dataset." *Proceedings of the Second Workshop on Bangla Language Processing (BLP-2025), 2025.*
- F Sultana, **MTH Fuad**, M Fahim, RR Rahman, M Hossain, MA Amin et al. "How Good are LM and LLMs in Bangla Newspaper Article Summarization?" *International Conference on Pattern Recognition (ICPR), pp. 72–86, Springer, 2024.*
- **MTH Fuad**, FB Amin, SMM Ahsan. "Deepfake Detection from Face-Swapped Videos Using Transfer Learning Approach." *26th International Conference on Computer and Information Technology (ICCIT), IEEE, 2023.*

Journal Articles

- ME Hasan, **MTH Fuad**, O Sharif, A Wagler. "Hybrid Vision Transformer–CNN Framework for Alzheimer's Disease Cell Type Classification: A Comparative Study with Vision–Language Models." *Journal of Imaging 12(3), 98, 2026.*
- AK Biswas, M Fahim, **MTH Fuad**, AMR Mazumder, AA Ali, AKMM Rahman. "Training-free Layer Selection for Partial Fine-tuning of Language Models." *Information Sciences, 123204, 2026.*
- O Sen, **M Fuad**, MN Islam, J Rabbi, M Masud, MK Hasan, MA Awal et al. "Bangla Natural Language Processing: A Comprehensive Analysis of Classical, Machine Learning, and Deep Learning Based Methods." *IEEE Access, 2022.*
- **MTH Fuad**, AA Fime, D Sikder, MAR Iftee, J Rabbi, MS Al-Rakhami et al. "Recent Advances in Deep Learning Techniques for Face Recognition." *IEEE Access 9, 99112–99142, 2021.*

Experience

Graduate Research Assistant, Department of Computer Science, University of Manitoba (Jan 2026 – Present)

- Researching LLM-based misinformation detection on social media under the supervision of Dr. Houda El Mimouni and Dr. Noman Mohammed.
- Researching depth based deepfake detection.

Machine Learning Engineer, Full-time, Ilm AI Ltd. (May 2025 – Dec 2025)

- Worked with educational AI, NLP, LLMs, and AI teaching systems.

Machine Learning Engineer, Full-time, mPower Social Enterprises Ltd. (Oct 2024 – Aug 2025)

- Developed AI-driven chatbots by integrating speech-to-text (STT), large language models (LLMs), and retrieval-augmented generation (RAG) systems to enhance conversational AI.
- Involved in data extraction, model creation, and optimization, ensuring efficient and scalable deployment of AI solutions.

Research/Teaching Assistant, CCDS, Independent University, Bangladesh (Oct 2023 – Oct 2024)

- Conducted research on NLP and LLMs, focusing on low-resource language modeling, explainability, and hate speech detection.
- Gained teaching experience as a lab instructor in the Coding for All initiative at Independent University, Bangladesh.

Machine Learning Engineer, Part-time, Lead Academy

- Developed a career counseling chatbot with RAG and LLMs that guides users toward their chosen career path.

Projects

MSc Thesis: Social Media Misinformation Detection (Ongoing)

- Focusing on detecting social media misinformation using AI and LLMs.

DRGB: Depth-Aware Deepfake Detection (Ongoing)

- Developing a deepfake image detector that fuses depth features with RGB features.

BSc Thesis: Deepfake Detection from Face Swapped Videos using Transfer Learning Approach

- The focus of this thesis is to detect deepfakes in videos using a dataset sourced from the Kaggle Deepfake dataset. Additionally, the developed method is tested on a self-created deepfake dataset.
- Using PyTorch, Pretrained Models, Computer Vision, Deep Learning, Transfer Learning.

OVA: An Online Voting Application via Face Recognition

- This Android application is built to collect votes from multiple users. To participate, users are required to log into a face-recognition system.
- Using Java, Android Studio and Python & Chaquopy for Face Recognition.

Career Counseling Chatbot

- The primary focus of this project is to develop a chatbot that can suggest a career plan and the courses that are needed to complete this plan.
- Using LLM, RAG, Python, etc.

Proficiency

Programming Languages	Python, C, C++, Java
Framework & Version Control	PyTorch, Keras, Bootstrap, Git, Langchain.

Extracurricular Activities

Competitive Programmer

- ICPC Dhaka Regional: 2021-2023

Awards

- **Dean's Award:** For Academic Excellence (2019–2020), Khulna University of Engineering & Technology.
- **UMGF (University of Manitoba Graduate Fellowship):** For Session (2026–2027), University of Manitoba.