

Enamul Hassan

PhD Candidate in Computer Science • Stony Brook University

ehassan@cs.stonybrook.edu • enamcse.github.io • Google Scholar • github.com/enamcse • linkedin.com/in/enamcse

Foundation models for sequential data • life-course and health (EHR) trajectories • representation learning • computational social science

EDUCATION

Stony Brook University — Ph.D., Computer Science Aug 2024 – May 2029 (expected)

Advisor: Steven Skiena • advanced to candidacy Aug 2026 • Chairman's Fellowship

University of North Texas — Ph.D., Information Science (Data Science); transferred 2023 – 2024

Shahjalal University of Science and Technology — B.Sc. (Engg.), Computer Science & Engineering; ranked 1st of 63 2012 – 2017

RESEARCH EXPERIENCE

Data Science Lab, Stony Brook University May 2025 – present

Graduate Assistant (Aug 2026 –) • Research Project Assistant (May 2025 – Aug 2026)

- First author: pretrained transformers (8M–540M parameters) on the full Dutch population register — 23M people, 7.5B records — inside Statistics Netherlands' secure environment, working on site in the Netherlands and the UK.
- Extended the life2vec input scheme for records in which many events share one date: Time2Vec encodings of age and calendar time, plus same-date segment embeddings, combined with ReZero residuals.
- Ran controlled ablations over data, scale, objective, pooling and fine-tuning: masked pretraining beat autoregressive on 17 of 18 tasks, and richer data beat larger models (3 → 13 task wins at a fixed 80M size).
- Beat tabular baselines on 20 of 21 prediction tasks: fertility AUC 0.88; taxable-income R^2 0.49 → 0.63 with fine-tuning.
- Contributed the cluster-token method to the group's population-network paper: a whitened Fibonacci-sphere quantizer that makes cluster IDs comparable across years, feeding a 1.4B-edge network into the life sequences.
- Extending the approach to longitudinal electronic health records: diagnoses, labs and medications.

SCORE Lab, University of North Texas — Research Assistant Aug 2023 – Jul 2024

- First-authored a probabilistic adaptation of the Banker's algorithm for IoT resource management under cyber risk (IEEE AIIoT 2024).
- Coordinated PERFECT, an ONR-funded cybersecurity curriculum for high-school STEM classes, and developed the Canvas modules evaluated in its social-validity study.

PUBLICATIONS & MANUSCRIPTS

- E. Hassan, T. Pial, F. Hafner, A. Macanovic, et al. "Foundation Models for Life-Course Prediction on Dutch Social Registry Data". Under review. 2026.
- T. Pial, F. Hafner, D. Handzlik, E. Hassan, et al. "Embeddings of Nation-Level Social Networks". In: *Complex Networks & Their Applications XIV (Complex Networks 2025)*. 2025.
- E. Hassan, G. Hossain, and P. Vajpayee. "Reducing Cyber Risks in IoT Device Resource Management: A Probabilistic Banker's Algorithm Approach". In: *2024 IEEE World AI IoT Congress (AIIoT)*. 2024.
- K. I. Islam, T. Yuvraz, M. S. Islam, and E. Hassan. "EmoNoBa: A Dataset for Analyzing Fine-Grained Emotions on Noisy Bangla Texts". In: *Proceedings of AACL-IJCNLP*. 2022.
- T. R. Ornob, G. Roy, and E. Hassan. "CovidExpert: A Triplet Siamese Neural Network Framework for the Detection of COVID-19". In: *Informatics in Medicine Unlocked* (2023).

TEACHING & LEADERSHIP

Shahjalal University of Science and Technology, Dept. of CSE Sep 2017 – present

Assistant Professor (2019 –; on study leave since 2023) • Lecturer (2017 – 19)

- Taught 25 courses (68 offerings) in ML, AI, databases, data structures, and web and cloud computing; supervised 45 undergraduate thesis students.
- PI on three funded projects, including Bangla summarization (~100k documents) and emotion (~50k sentences) datasets.
- ICPC coach: World Finals 2019 (co-coach) and 2022 (50th); BUET IUPC 2023 champions.

Teaching Assistant, CSE 220 System Fundamentals I, Stony Brook University Fall 2024, Spring 2025

SKILLS

ML: PyTorch, Hugging Face Transformers, scikit-learn, pandas, NumPy • **Languages:** Python, C/C++, Java

Data & systems: SQL, Spark, Linux, Git, Docker, AWS, GCP • **Secure research environments:** Statistics Netherlands micro-data, output disclosure control

Honors: Chairman's Fellowship, Stony Brook CS (2024–26) • University Scholarship, SUST (2012–17)