Kazi Noshin

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Research Interest

Machine Learning/Deep Learning – Explainability – Fairness – Healthcare AI – Health Informatics – Public Health – Large Language Models

Education

University of Virginia *Charlottesville, USA*

MS in Computer Science *August 2023 – December 2025*

- Current GPA: 4.00/4.00

Research Experience

Alzheimer's Disease Early Prediction with Deep Learning approaches

(Graduate Research Assistant at University of Virginia) *August 2023 - Present*

Topic: Health Data Analytics, Data Management, Deep Learning, EHR Data, Interpretability, Association Mining, Survival Analysis, Predictive Biomarkers, Self-Supervised Learning, LLM

- Cleanign and preparing dataset from EHR data using Python and R
- Improving in-context learning of LLM and building interpretable algorithms/models using PyTorch for early prediction of AD

Earthquake Early Warning System using Graph Neural Network

(Research Assistant at BUET-Japan Institute of Disaster Prevention and Urban Safety) *July 2022 - Jan 2023*

Topic: Earthquake Early Warning, Deep Learning, Time-series Data, Data Processing

- Cleaning and preparing time-series data using Python
- Prediction of earthquake intensity in different regions using a relatively small amount of earthquake receiver station records via Graph Neural Network using Keras

Automated Analysis of Parkinson's Disease (PD) Characteristics and Severity Based on Videos Collected via a Web-based Platform (B.Sc. Thesis) **(**PDF**)** *2021 - 2022*

Topic: Human-Computer Interaction, Web Development, Machine Learning

- Building a simple automated online PD screening tool by modifying an existing web-based application that can capture audio and video data from participants to identify Parkinson's Disease (PD) in thousands of undiagnosed people in Bangladesh.
- We used React for the frontend and Firebase for storing the data. Python was used for the data preparation and analysis.

Actionable Analytics of Cancer *2021-2023*

Topic: Cancer-risk Prediction, Data Mining, Machine Learning, Survival Analysis, GWAS, Data Management

- Identifying the association of various clinical or molecular factors with the survival of patients diagnosed with cancers
- Data analysis was done by Python and survival analysis was done by R.

Skills

Programming	Python, R, C/C++, Javascript
Frameworks	PyTorch, Keras, Tensorflow, React-Native
Libraries	Pandas, NumPy, Matplotlib, SciPy, Scikit-Learn, OpenFace
Database	SQL, MongoDB
Tools/Software	Git, GitHub Actions, Hugging Face, Microsoft Word, PowerPoint, Excel, MATLAB, Latex

Publications (2 out of 5)

NADCSM: Neural Additive Deep Clustering Survival Machines (Currently Under Review, Submitted to KDD**)**

Authors: **Kazi Noshin***, Bojian Hou*, Mary Regina Boland, Zixuan Wen, Boning Tong, Li Shen, Aidong Zhang *2025*

Uncovering Important Diagnostic Features for Alzheimer's, Parkinson's and Other Dementias Using Interpretable Association Mining Methods (Link**)** *PSB*

Authors: **Kazi Noshin***, Mary Regina Boland*, Bojian Hou, Victoria Lu, Carol Manning, Li Shen, Aidong Zhang *2024*