Tasmia Shahriar

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in tasmia-shahriar | TasmiaShahriar | https://tasmiashahriar.github.io | Google Scholar

Summary: 5+ years of experience in statistical machine learning, identifying trends in text data through data visualization, hypothesis testing and predictive modeling and applying Artificial Intelligence to facilitate education.

EDUCATION

PhD in Computer Science
North Carolina State University (NCSU) | Aug 2018-2024
Dissertation: Enhancing Student Learning through generation of Conversational Questions

MSc in Computer Science
NCSU | Aug 2018-2024
CGPA 3.73/4
Courses: Machine Learning, AI, Algorithms & Data Structures.

SKILLS

Advanced Programming Languages:*100000+ Lines of Code*
Java • Python • R • C/C++ • SQL

Libraries & Framework: NLTK • Pytorch • CUDA • Scikit-learn • Numpy • Pandas • spacy •Tensorflow • Keras• matplotlib • seaborn • HuggingFace • Transformers

Other tools:
Git • Jupyter • Shell • Excel

Area of Expertise
Statistical Analysis

Natural Language Processing (NLP)

Deep Learning

CERTIFICATES

- Responsible Conduct of Research, CITI Program
- Building Deep Learning Models with TensorFlow, IBM

LEADERSHIP

- National Hackathon Champion, group leader, Bangladesh, 2016.
- Mind Spark Business Case Champion, group leader, Bangladesh, 2017

WORK EXPERIENCE

Graduate Research Assistant | NCSU | Aug 2020 – 2024

- Developed an SVM model to classify students' learning outcomes into two categories (good or poor) with 89% accuracy, based on feature engineering of their conversational text. (AIED 2023, acceptance rate **21%,** See Google Scholar**)**
- Conducted hierarchical mixed model analysis, revealing students engaging with conversational questions had 1% increase in posttest score. (AIED 2021, acceptance rate **24%,** See Google Scholar**)**
- Innovated a knowledge-embedded few-shot prompt that reduced hallucinations by 15% in linear algebra text. (See Google Scholar)
- Applied in-context learning to generate data-driven questions improving students' learning outcome by 13%. (AIED 2024, acceptance rate: **25%**, See Google Scholar)
- Applied deep learning model on time series logs predicting high-gainers' action strategies in AI systems. (Ongoing LAK submission)
- Showcased written and verbal communication skills by writing 4 first authored independent papers and presenting at conferences and AnitaB GHC.
- Collaborated with over 300+ middle school students, 20 teachers, and 3 schools to plan highly inclusive A/B experiments.

Graduate Teaching Assistant | NCSU | Aug 2018 – 2020

- Mentored 120 students at CSC 236: Computer Organization & Assembly (Fall 2019 and Spring 2019) and CSC 226: Discrete Mathematics (Fall 2018)
- Prepared in-class quiz through TopHat, held flexible office hours and offered focused guidance on development project work.

Software Engineer | Infosapex Ltd | Bangladesh | Feb 2017 – June 2018

- Agile Development of e-commerce website using Rest API.
- Feature incorporation discovering insights from user clickstream data.
- Performed unit testing and CI/CD for Android applications.

PROJETCS

Metadata Extraction from Educational Videos
Research | LearnLab | Carnegie Mellon University (CMU) | 2023

- Extract features from YouTube video transcript using LangChain to predict its popularity (github)

Intrusion Detection in Network Flow Data
Course Project | Automated Learning and Data Analytics | NCSU | 2023

- Applied Principal Component for dimensionality reduction, build multitask deep learning model with 98% accuracy and recall in detecting malicious flow. (github)

Itinerary Summarization with Temporal Information from Travelers' Blog
Course Project | Natural Language Processing | NCSU | 2023

- Used location-based tokenization followed by event extraction and dependency parsing that achieved a high BLEU score of .60 on summarized itinerary, outperforming baseline by 20 points. (github)

No work authorization or visa sponsorship required — green card (permanent residency) process on-going