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Summary

I am an advanced Ph.D. student in Computer Science at Virginia Commonwealth University, USA. Before starting the Ph.D. program, I have 3+ years of industry experience. Core competencies include software engineering, programming, data science, machine learning, and natural language processing. Skilled in designing, developing, and deploying full-stack applications using Java, Python, PyTorch, and Angular. I have published 7 peer-reviewed papers in top conferences and journals such as ICSE (impact factor 11.80), ASE (impact factor 6.30), MSR (impact factor 4.90), and IST (impact factor 3.90). My citations count is 20.

Education

† *Indicates expected*

2020–2024 † Ph.D., Computer Science, Virginia Commonwealth University, USA

2012–2016 B.Sc., Computer Science and Engineering, University of Dhaka, Bangladesh

Experiences

2020–2024 Graduate Research Assistant, Computer Science, Virginia Commonwealth University

Role Description: See more in the 'Publications' section.

Used Methodologies: Data curation and annotation, Emotion model development, Prompting, Devising data augmentation strategies, Cluster analysis, Quantitative analysis, Qualitative analysis, Language model evaluation, Language model fine-tuning, Manual error analysis, Interview conduct, and Survey conduct.

Used Technologies: LLMs, LSTM, Lucene, SVM, Streamlit, p-test, BLEU-score, Clustering (K-means and DBSCAN), PyTorch, Tensorflow, Huggingface, LangChain, OpenAI, Pandas, SpaCy, NLTK, Scikit Learn.

2020–2022 Graduate Teaching Assistant, Computer Science, Virginia Commonwealth University

Role Description: See more in the 'Teaching Assistant' section.

2022 Software Engineering Intern, Google LLC, Kirkland, USA

Role Description: Worked on a Transfer Learning based project. Investigated why TensorFlow TFCO (TensorFlow Constrained Optimization) library does not work well on a particular scenario.

Used Technologies: SQL, Python, Pandas, Jupyter Notebook.

2023 Data Science Intern, VCU Health (Wellbeing Lab), Richmond, USA

Role Description: Worked as a data science intern on a well-being project for at-risk college students using Passive Smartphone-Sensing and Ecological Momentary Assessment (EMA).

Used Technologies: SQL, Dbeaver, Python, Pandas, Jupyter Notebook.

2019 Software Engineer, Impel IT Solutions, Dhaka, Bangladesh

Role Description: Designed and developed risk management and valuation software (backend and frontend).

Used Technologies: Java, Spring, Angular, MySQL.

2018–2019 Software Engineer, AnyConnect Private Limited, Dhaka, Bangladesh

Role Description: Designed and developed an Android app for an IoT system using a RESTful architecture that can send and receive texts, images, and stream with another smartphone or Raspberry Pi.

Used Technologies: Java, JIRA, Gerrit, Logcat, Glide, EventBus.

2016–2018 Software Engineer, IPVision Canada Inc, Dhaka, Bangladesh

Role Description: Designed and developed a database for an online marketplace.

Used Technologies: Java, MySQL, OpenJPA, JUnit, Git.

Teaching Assistant

2022	CMSC 455. Software as a Service	Virginia Commonwealth University
2021	CMSC 455. Software as a Service	Virginia Commonwealth University
2021	CMSC 401. Algorithm Analysis	Virginia Commonwealth University
2021	CMSC 401. Algorithm Analysis	Virginia Commonwealth University
2020	CMSC 508. Database Theory	Virginia Commonwealth University

Supervision

2023	Bobby Zita, Undergraduate Student	REU Program
2023	Xander Cole, Undergraduate Student	REU Program

Publications

Publications and pre-prints are available at https://scholar.google.com/citations?user=uVCaRjAAAAAJ&hl=en

Conferences

[1] **Imran, Mia Mohammad**, Preetha Chatterjee, and Kostadin Damevski. "Uncovering the Causes of Emotions in Software Developer Communication Using Zero-shot LLMs" - In 2024 IEEE/ACM 46th International Conference on Software Engineering (ICSE). 2024.

[2] **Imran, Mia Mohammad**, Preetha Chatterjee, and Kostadin Damevski. "Shedding Light on Software Engineering-specific Metaphors and Idioms." - In 2024 IEEE/ACM 46th International Conference on Software Engineering (ICSE). 2024.

[3] **Imran, Mia Mohammad**. "Emotion Classification In Software Engineering Texts: A Comparative Analysis of Pre-trained Transformers Language Models" - 3rd International Workshop on Natural Language-based Software Engineering (NLBSE), 2024.

[4] Eshani, Ramtin, **Mia Mohammad Imran**, Bobby Zita, Preetha Chatterjee, and Kostadin Damevski. "Incivility in Open Source Projects: A Comprehensive Annotated Dataset of Locked GitHub Issue Threads" - In 2024 IEEE/ACM 21st International Conference on Mining Software Repositories (MSR). IEEE, 2024.

[5] **Imran, Mia Mohammad**, Yashasvi Jain, Preetha Chatterjee, and Kostadin Damevski. "Data Augmentation for Improving Emotion Recognition in Software Engineering Communication." In Proceedings of the 37th IEEE/ACM International Conference on Automated Software Engineering. 2022.
Citations: 13.

[6] **Imran, Mia Mohammad**, Agnieszka Ciborowska, and Kostadin Damevski. "Automatically selecting follow-up questions for deficient bug reports." In 2021 IEEE/ACM 18th International Conference on Mining Software Repositories (MSR). IEEE, 2021.
Citations: 7.

Journals

[1] **Imran, Mia Mohammad**, and Kostadin Damevski. "Using clarification questions to improve software developers' Web search." Information and Software Technology 151 (2022): 107021.

Workshops and Presentations

[1] Ali, H., **Imran, M. M.**, Damevski, K., and Ahmed, I. (2023). Natural Language Processing (NLP) for Digital Forensics, Digital Forensic Research Workshop (DFRWS), USA, 2023.

[2] **Imran, M. M.** (2023). Exploring Emotions in Open-Source Software Developers' Communications: Findings and Prospects, Computer Science Speaker Series, VCU, 2023.