

# S M Hasan Mansur

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## SUMMARY

- 5+ years of **professional** software engineering experience. **Publication** track record in top-tier SWE venues.
- Research **focus** "Automated Software Engineering via Multimodal Machine Learning".
- Area of **interests**: Software Engineering | HCI | Machine Learning | Generative AI | Large Language Model (LLM)
- Open to relocation and have US work authorization.

## EDUCATION

**George Mason University** | *Ph.D. candidate in Computer Science* **Aug 2018 - Dec 2024 (expected)**  
**George Mason University** | *MS in Computer Science* **May 2023**  
**Shah Jalal University of Science & Technology, Bangladesh** | *BS in Computer Science* **Apr 2007**

## EXPERIENCE

**George Mason University** | *Graduate Research Assistant* **May 2021 - Present**

- Currently developing a *multimodal model* (vision-code-language) for code summarization.
- Fine-tuning and applying large language models (LLMs) for software engineering tasks.
- Designed and developed *AidUI*, an automated approach to detect deceptive UI designs.
- Co-contributor of *MotorEase*, an approach to detect motor-impairment accessibility violations in apps.
- Co-contributor of *GUIEvo*, an approach to update UI code by detecting changes between existing and proposed designs.

**George Mason University** | *Graduate Teaching Assistant* **Aug 2018 - May 2021**

- Mentored students, graded assignments, and proctored exams (*Python Programming, Database, Computer Vision*).

**Ice9 Ltd., Bangladesh** | *Software Engineer* **Apr 2017 - Jul 2018**

- Core engineering team member to develop social media query and analytics platforms of project '*smashboard.co*'.
- Optimized database and implemented master-replica architecture to resolve the sync delay of real time queries.

**Synchronous ICT, Bangladesh** | *Software Engineer* **Feb 2015 - Apr 2017**

- Lead the engineering team to develop user management and search platforms of in-house project '*ComX*'.
- Assessed the capacity to deliver, formed sprints and released duration based development milestones.

**Dcastalia, Bangladesh** | *Software Engineer* **Aug 2013 - Jan 2015**

- Developed and published native Android application '*HE Business Manager*'.
- Collaborated with the server-side team to design the database & the APIs.

**Daimler AG, Germany** | *Student Intern* **Oct 2012 - Jul 2013**

- Developed a key-value pair parser for environment perception data

**Grameenphone Ltd, Bangladesh** | *System Engineer* **Jul 2007 - Feb 2011**

- Member of the transmission optimization team to serve over 20 million users

## PUBLICATIONS

- Arun Krishnavajjala, **S M Hasan Mansur**, Justin Jose, Kevin Moran, "*MotorEase: Automated Detection of Motor Impairment Accessibility Issues in Mobile App UIs*", ICSE'24, <https://arxiv.org/abs/2403.13690>
- Sabiha Salma, **S M Hasan Mansur**, Kevin Moran, Yule Zhang, "*GUIEvo: Automated Evolution of Mobile Application GUIs from Mockups*", MSR'24
- Junayed Mahmud, Nadeeshan De Silva, Safwat Ali Khan, Seyed Hooman Mostafavi, **S M Hasan Mansur**, Oscar Chaparro, Andrian (Andi) Marcus, Kevin Moran, "*On Using GUI Interaction Data to Improve Text Retrieval-based Bug Localization*", ICSE'24, <https://arxiv.org/abs/2310.08083>
- **S M Hasan Mansur**, Kevin Moran, "*Toward Automated Tools to Support Ethical GUI Design*", ICSE'23: Companion Proceedings, <https://ieeexplore.ieee.org/abstract/document/10172491>
- **S M Hasan Mansur**, Sabiha Salma, Damilola Awofisayo, Kevin Moran, "*AidUI: Toward Automated Recognition of Dark Patterns in User Interfaces*", ICSE'23, <https://arxiv.org/abs/2303.06782>
- Tyler Wendland, Jingyang Sun, Junayed Mahmud, **S M Hasan Mansur**, Steven Huang, Kevin Moran, Julia Rubin, Mattia Fazzini, "*AndroR2: A Dataset of Manually-Reproduced Bug Reports for Android apps*", MSR'21, <https://arxiv.org/abs/2106.08403>

## TECHNICAL SKILLS

- **Languages:** Python, Javascript, Java, C
- **Frameworks / Libraries:** Node.js, Express.js, REST API, PyTorch, OpenCV, NumPy, spaCy, Socket.IO
- **Databases:** MySQL, MongoDB, Redis, Elasticsearch, SQLite
- **Tools / Platforms:** Git, Docker, AWS, Hugging Face

## AWARDS

- **NSF Travel Award** | *ICSE'23* Apr 2023
- **Best Poster Presentation Award** | *GMU CS Research Symposium* May 2022
- **Summer Research Initiation Award** | *GMU CS Dept.* May 2019

## PROFESSIONAL SERVICES

- **Junior PC Member**
  - International Conference on Mining Software Repositories (MSR) 2024
- **Co-Reviewer**
  - International Conference on Mining Software Repositories (MSR) 2022
- **External Reviewer**
  - International Conference on Software Engineering (ICSE) 2023, 2021
  - International Conference on Software Analysis, Evolution and Reengineering (SANER) 2023, 2022
  - International Conference on Automated Software Engineering (ASE) 2022
  - International Conference on Mining Software Repositories (MSR) 2021
  - International Conference on Program Comprehension (ICPC) 2021

## VOLUNTEERING

- **Aspiring Scientists Summer Internship Program, GMU** | *Co-Mentor* May 22 - Aug 22
- **Bangladeshi Graduate Student Association, GMU** | *Director, Web Services* 2021-22
- **KIN** | *Humanitarian Organization at SUST, Bangladesh* | *Member* 2002-07