

# S M Hasan Mansur

+1-571-354-5264 | [smansur4@gmu.edu](mailto:smansur4@gmu.edu) | [smhasanmansur.netlify.app](https://smhasanmansur.netlify.app)

 [smhasanmansur](#) |  [hasanmansur](#) |  [Google Scholar](#)

Fairfax, Virginia - 22031, USA

## SUMMARY

**Research Interests:** Machine Learning and Deep Learning with applications in Software Engineering and HCI.  
**Publication** track record in top-tier SWE venues. 5+ years of **professional software engineering** experience.  
3 years of **teaching assistantship** experience. Open to relocation and **no sponsorship required**.

## EDUCATION

- **George Mason University** August 2018 - Present  
*PhD candidate in Computer Science* Virginia, USA
  - Dissertation: Automated Software Engineering via Learning from Graphical User Interfaces
  - Advisor: [Dr. Kevin Moran](#)
- **George Mason University** May 2023  
*MS in Computer Science* Virginia, USA
  - CGPA: 3.83/4.00
- **Shah Jalal University of Science & Technology** April 2007  
*BS in Computer Science* Sylhet, Bangladesh
  - CGPA: 3.54/4.00

## RESEARCH & TEACHING EXPERIENCE

- **George Mason University** May 2025 - Present | May 2021 - August 2024  
*Graduate Research Assistant* Virginia, USA
  - Major areas of contribution: Software Documentation, Ethical Software Design, Software Accessibility.
  - Lead the project *MultiC2C* that aims to benchmark the performance of state-of-the-art multimodal LLMs in generating context-aware summaries from code snippet, related UI screenshot and metadata.
  - Designed and developed *AidUI*, a novel approach to detect and localize deceptive design patterns on UIs.
  - Collaborated on curating dataset and developing semantic text matching prototype in project *MotorEase*, an approach to detect motor-impairment accessibility violations in app UIs.
  - Collaborated in developing benchmark datasets for *Software Evolution*, *Bug Reporting* and *Bug Localization*.
- **George Mason University** August 2024 - May 2025 | August 2018 - May 2021  
*Graduate Teaching Assistant* Virginia, USA
  - Courses: Python Programming, Database, Computer Vision, Formal Methods.
  - Helped design programming assignments and evaluation rubrics.
  - Prepared and conducted lab sessions, tutorials, and recitations.
  - Graded assignments, quizzes, and exams with consistent and timely feedback.
  - Managed course forums and provided one-on-one academic assistance to students through regular office hours.

## PROFESSIONAL EXPERIENCE

- **Ice9 Ltd.** April 2017 - July 2018  
*Software Engineer* Dhaka, Bangladesh
  - Core engineering team member for developing and maintaining *SMASHBOARD.CO*, a CRM & analytics platform.
  - Collaborated on strategic planning for architecture design, development, testing and deployment.
  - Optimized database and implemented master-replica architecture to resolve scalability and synchronization issues.
  - Lead the migration of the core product from Rackspace to AWS.
- **Synchronous ICT** February 2015 - April 2017  
*Software Engineer* Dhaka, Bangladesh
  - Developed user management, search and notification platforms of *COMX*, an in-house application framework.
  - Assessed team's capacity to deliver, formed sprints and released duration based development milestones.
  - Established software engineering practices like version controlling, issue tracking and test driven development.
- **Dcastalia** August 2013 - January 2015  
*Software Engineer* Dhaka, Bangladesh
  - Developed *HE BUSINESS MANAGER*, an Android application for inventory management of healthcare products.
- **Mercedes-Benz Group AG (former Daimler AG)** October 2012 - July 2013  
*Student Intern* Ulm, Germany
  - Developed *Key-Value* pair parser to convert the unstructured environment perception data into a canonical form.
- **Grameenphone Ltd.** July 2007 - February 2011  
*System Engineer* Dhaka, Bangladesh
  - Member of the transmission network configuration and optimization team to serve over 20 million mobile users.

## PUBLICATIONS

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- [1] [MOBILESoft'25] Zihe Song, **S M Hasan Mansur**, Ravishka Rathnasuriya, Yumna Fatima, Wei Yang, Kevin Moran, Wing Lam, "[Can You Mimic Me? Exploring the Use of Android Record & Replay Tools in Debugging](#)", in Proceedings of the 2025 IEEE/ACM 12th International Conference on Mobile Software Engineering and Systems, Ottawa, Canada, April 2025.
- [2] [ICSE'24] Arun Krishnavajjala, **S M Hasan Mansur**, Justin Jose, Kevin Moran, "[MotorEase: Automated Detection of Motor Impairment Accessibility Issues in Mobile App UIs](#)", in Proceedings of the IEEE/ACM 46th International Conference on Software Engineering, Lisbon, Portugal, April 2024.
- [3] [ICSE'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](#)", in Proceedings of the IEEE/ACM 46th International Conference on Software Engineering, Lisbon, Portugal, April 2024.
- [4] [MSR'24] Sabiha Salma, **S M Hasan Mansur**, Kevin Moran, Yule Zhang, "[GUIEvo: Automated Evolution of Mobile Application GUIs from Mockups](#)", in Proceedings of the 21st International Conference on Mining Software Repositories, Lisbon, Portugal, April 2024.
- [5] [ICSE'23] **S M Hasan Mansur**, Kevin Moran, "[Toward Automated Tools to Support Ethical GUI Design](#)", in Proceedings of the 2023 IEEE/ACM 45th International Conference on Software Engineering, Doctoral Symposium Track, Melbourne, Australia, May 2023.
- [6] [ICSE'23] **S M Hasan Mansur**, Sabiha Salma, Damilola Awofisayo, Kevin Moran, "[AidUI: Toward Automated Recognition of Dark Patterns in User Interfaces](#)", in Proceedings of the 2023 IEEE/ACM 45th International Conference on Software Engineering, Research Track, Melbourne, Australia, May 2023.
- [7] [MSR'21] 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](#)", in Proceedings of the 2021 IEEE/ACM 18th International Conference on Mining Software Repositories, Madrid, Spain, May 2021.

## SELECTED RESEARCH

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### • Multimodal Code Summarization

Ongoing

Principal Contributor

- Goal: To investigate on Multimodal-LLMs capabilities in capturing UI semantics for code summarization.
- Automated a pipeline to collect and map multi-modal data (code, comments, UI) from open-source repositories.
- Lead the team to develop ground truth code summaries by augmenting UI information.
- Formulated the design of experiments that include different prompt techniques, input modalities and LLMs.
- Developed the pipeline for both lexical and semantic similarity based quantitative evaluation.
- Conducted user study to assess human evaluation of generated code summaries.

### • AidUI

ICSE'23

Principal Contributor

[\[Paper\]](#)[\[Code\]](#)

- AidUI is an automated approach to detect and localize deceptive design patterns on UIs.
- Developed a unified taxonomy and heuristic rules to detect visual-textual cues of deceptive UI patterns.
- Automated a data pipeline to extract UIs from public app usage videos and screenshots from prior studies.
- Designed and developed a computer vision and NLP-based novel approach to detect deceptive UI patterns.
- Implemented an automated evaluation pipeline. Dockerized and published research artifacts in a public repository.

### • MotorEase

ICSE'24

Collaboration

[\[Paper\]](#)[\[Code\]](#)

- MotorEase is an approach to detect motor-impairment accessibility violations in app UIs.
- Collaborated with the lead contributor on labeling and curation of the dataset.
- Developed the initial prototype of the "Semantic Text Matching" component of the automated approach.
- Conducted baseline experiments to assess performance in touch target and icon distance detection.

## TECHNICAL SKILLS

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- **Programming Languages:** Python, Javascript, Java, C, PHP, HTML, Shell Scripting
- **ML/DL/NLP:** LLM (prompting, finetuning), PyTorch, Hugging Face, LangChain, scikit-learn, spaCy
- **Databases:** MySQL, MongoDB, Redis, Elasticsearch, SQLite
- **Libraries:** OpenCV, NumPy, Matplotlib, Pandas, Socket.IO
- **Backend/Cloud/DevOps:** Node.js, Express.js, REST API, AWS, Docker, Git

## TEACHING TRAININGS

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- **George Mason University** Ongoing  
*Graduate Teaching Academy – SkillCraft*  
◦ Title: SkillCraft Level 1 - Essentials of Student Engagement  
◦ Sessions: Fundamentals of Student Engagement | In Class Activities | Grading and Feedback | Classroom Climate
- **George Mason University** 2024  
*Stearns Center for Teaching and Learning*  
◦ Title: Inclusive Teaching for STEM Graduate Students Mini-Course  
◦ Sessions: Developing inclusive classroom spaces | Preparing the course | Handling classroom situations

## STUDENT MENTORSHIP

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- **George Mason University** 2021 - 2022  
*Aspiring Scientists Summer Internship Program*  
◦ High School Mentees: Damilola Awofisayo, Justin Jose

## RESEARCH TALKS

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- **George Mason University** April 2024  
*Dissertation Proposal Presentation*  
◦ Automating Software Engineering via Learning from Graphical User Interfaces
- **JPMorgan Chase & Co.** January 2024  
*Interview - 2024 AI Research Summer Associate Program*  
◦ Multi-modal Learning for Software Engineering Automation
- **Los Alamos National Laboratory** January 2024  
*Interview - AML Summer Internship*  
◦ Multi-modal Learning for Software Engineering Automation
- **International Conference on Software Engineering** May 2023  
*Research Track*  
◦ AidUI: Toward Automated Recognition of Dark Patterns in User Interfaces
- **International Conference on Software Engineering** May 2023  
*Doctoral Symposium*  
◦ Toward Automated Tools to Support Ethical GUI Design

## HONORS & AWARDS

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- **NSF Travel Award**, International Conference on Software Engineering 2023
- **Best Poster Presentation Award**, GMU CS Research Symposium 2022
- **Summer Research Initiation Award**, Dept. of Computer Science, GMU 2019

## PROFESSIONAL SERVICES

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- **Junior PC Member**, MSR'24 2024
- **Co-Reviewer**, MSR'22 2022
- **External Reviewer**, ICPC'21, ICSE'21, MSR'21, ASE'22, SANER'22, SANER'23, ICSE'23 2021 - 2023

## LEADERSHIP & VOLUNTEER EXPERIENCE

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- **Director-Web Services**, Bangladeshi Graduate Student Association, GMU 2021 - 2022
- **Member**, KIN (*Humanitarian Organization*), SUST, Bangladesh 2002 - 2007

## REFERENCES

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1. **Dr. Kevin Moran**

Assistant Professor, Department of Computer Science  
University of Central Florida  
Email: kpmoran@ucf.edu  
Phone: (407)-823-3219

2. **Dr. Andrian Marcus**

Professor, Department of Computer Science  
George Mason University  
Email: amarcus7@gmu.edu  
Phone: (703)-993-9237

3. **Dr. Ahmed Bin Zaman**

Assistant Professor (Teaching), Department of Computer Science  
George Mason University  
Email: azaman6@gmu.edu  
Phone: (703)-993-6642

4. **Dr. Mattia Fazzini**

Assistant Professor, Department of Computer Science & Engineering  
University of Minnesota  
Email: mfazzini@umn.edu  
Phone: (612)-625-4365