

Safwat Ali Khan

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Education

GEORGE MASON UNIVERSITY

PHD IN COMPUTER SCIENCE

📅 Expected 2026

CGPA 3.88/4.00

UNIVERSITY OF DHAKA

BSC IN COMPUTER SCIENCE

📅 2010-2014 📍 Bangladesh

Graduate Courseworks

Software Testing

Algorithm

UI Design and Development

Deep Learning

Natural Language Processing

Skills

MACHINE LEARNING

Prompt Engineering • Fine-tuning

LLMs • OpenCV • tensorflow •

pyTorch •

CLiP • Transformer

AUTOMATION TOOL:

UIAutomator • Selenium

webdriver • JMeter • Google

Monkey • APE

LANGUAGES

Python • Java • C/C++ •

JavaScript

Research Talk

FRAUNHOFER USA

📅 Jan, 2023 📍 Maryland, USA

Leveraging Machine Learning to
bypass Android UI tar pits

ICST DOCTORAL SYMPOSIUM

📅 Apr, 2025 📍 Napoli, Italy

Advancing Mobile UI Testing by
Learning Screen Usage Symantics

Mentorship

ASSIP 2020, 2022

Co-mentor for Aspired Scientist
Summer Internship Program

Service

CO-REVIEWER

FSE 2024, ICSE 2023,

SANER 2023, ASE 2022

STUDENT VOLUNTEER

ICST 2024

Research Publications

1. “AURORA: Navigating UI Tar pits via Automated Neural Screen Understand-
ing” — **Safwat Ali Khan**, Wenyu Wang, Yiran Ren, Bin Zhu, Jiangfan Shi, Wing
Lam, Kevin Moran. In ICST 2024.
2. “Testing Practices, Challenges, and Developer Perspectives in Open-Source
IoT Platforms” — Daniel Rodriguez-Cardenas, **Safwat Ali Khan**, Prianka Man-
dal, Adwait Nadkarni, Kevin Moran, Denys Poshyvanyk. In ICST 2025.
3. “On Using GUI Interaction Data to Improve Text Retrieval-based Bug Local-
ization” — Junayed Mahmud, Nadeeshan De Silva, **Safwat Ali Khan**, Seyed
Hooman Mostafavi, S M Hasan Mansur, Oscar Chaparro, Andrian Marcus,
Kevin Moran. In ICSE 2023.
4. “AVGUST: Automating Usage-based Test Generation from Videos of App Exe-
cutions” — Yixue Zhao, Saghar Talebipour, Kesina Baral, Hyojae Park, Leon
Yee, **Safwat Ali Khan**, Yuriy Brun, Nenad Medvidovic, Kevin Moran. In
ESEC/FSE 2022.

Current Projects

- Developing and evaluating techniques to analyze automated input genera-
tion traces to **detect use cases** in mobile UI testing.
- Identifying usability issues in mobile apps and **redesigning UIs** based on
user needs to improve overall user experience.

Fellowship

- CS Research Initiation Award — 2020
- Sustainability Summer Research Fellowship — 2024

Work Experience

GRADUATE ASSISTANT

GEORGE MASON UNIVERSITY

📅 Sep 2019 – Present

📍 Fairfax, VA, USA

Experience in academic research and teaching focusing software testing,
data analysis, and program development.

- Conducting research on **automated mobile UI testing**, developing
learning-based techniques to detect use cases from large-scale exe-
cution traces and analyzing limitations in smart home app testing.
- Designing and evaluating **IR and LLM-based methods** to identify
user-facing use cases within automated exploration traces.
- Serving as a **Teaching Assistant** for Low-Level Programming (C,
Java), Database Systems, and Data Structures; mentoring students
and supporting labs.

INDUSTRY EXPERIENCE

THERAP SERVICES LTD.

📅 Jan 2018 – Jul 2019

📍 Dhaka, Bangladesh

RELISOURCE TECHNOLOGIES LTD.

📅 May 2015 – Dec 2017

📍 Dhaka, Bangladesh

MPOWER SOCIAL ENTERPRISES LTD.

📅 Aug 2014 – Apr 2015

📍 Dhaka, Bangladesh

Software Quality Assurance Engineer with **5+ years of experience** in
manual and automated testing of web and mobile applications,
contributing to large-scale systems across diverse domains.

- Supported projects delivering digital solutions for underserved pop-
ulations in Bangladesh.
- Worked on web-based learning platforms for healthcare profession-
als and health tracking modules for developmentally disabled indi-
viduals.