MUHAMMAD MUNSWARIM KHAN

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Passionate computer science graduate with over a year of undergrad research experience. Expertise includes UI designing, web-development, system analysis and data representation. Effective in communicating research findings.

SKILLS

Programming Languages : C#, Java, Python, JavaScript, PHP, Assembly, PowerShell, MariaDB, OracleSQL
Libraries & Frameworks : Materialize, Tailwind, Firebase, Laravel, GLUT, Kivy, Aquality
Tools : Unity Engine, MATLAB, Blender, Photopea, CISCO Packet Tracer, Circuit-maker, Audacity, Draw.io, Figma, Overleaf, Allure, Jenkins

EXPERIENCE

a1qa | Dhaka, Bangladesh   *April 2024 onwards*
QA Automation Engineer (Intern), Test Automation Training Center
Responsibilities: Test automation using Aquality and Specflow, test report generation using Allure, CI/CD system setup using Jenkins

ACADEMIC QUALIFICATIONS

Institute of Information Technology, University of Dhaka | Dhaka, Bangladesh   *December 2023*
Executive Masters, Information Technology
Result: CGPA 3.58 out of 4.00
Relevant coursework: Cryptography and Security Mechanism, Cybersecurity, Artificial Intelligence, Machine Learning

Military Institute of Science and Technology | Dhaka, Bangladesh   *April 2022*
B Sc, Computer Science and Engineering
Result: CGPA 3.17 out of 4.00
Relevant coursework: Data Structures & Algorithm, Database Management System, Computer Architecture, Computer Network, Information System Design & Development, Artificial Intelligence, Human-Computer Interaction, Simulation & Modeling

UNDERGRADUATE RESEARCH EXPERIENCE

Bachelor Final Year Thesis Research   *May 2021 - March 2022*
What Happens After - *An Acoustic VR game to improve the ethical values of visually impaired people*
- Explored the designing considerations, working principles and drawbacks of existing systems through literature review
- Conducted interviews to identify system user requirements
- Implemented a narrator voice using text-to-speech
- Collected feedback from (blind) players for documenting user experience
- Updated existing documentation after achieving each milestone

AREA OF INTERESTS

Game Development, Simulation & Modeling, Network Security & Cryptography, IoT, Human-Computer Interaction, Data Analytics

PROJECT ACTIVITIES

AR Nav *An outdoor navigation application to replicate Google Maps' Live View*   *September 2023 - December 2023*
- Developed an android application that took origin and destination as user input, fetched turn-by-turn routing information from Google Maps Platform API and showed navigation directions using 3D virtual objects in AR.

Regularized Classification *An observation on the effect of regression techniques on classifiers*   *October 2023 - December 2023*
- Implemented a program that regularized data using each of 4 regressors (Lasso, Ridge, PLS, MI) and performed 10-fold CV to predict labels using each of 4 classifiers (SVM, DT, KNN, LDA). Performance metrics of the 16 models were plotted for comparison.

Grocery Inventory Management System *A smart assistant for shopkeepers*   *December 2022 - January 2023*
- Developed a simple shop management app that identified selling trends and predicted selling out of products.

VR Gloves *A virtual input system for controlling vr with enhanced usability and accuracy*   *August 2021 - January 2022*
- Implemented a cost-effective wearable device using ARCore that accurately converted natural hand movements into VR inputs for controlling a virtual hand inside a digital environment.

Thermique *An AI-based temperature sensing and management system to hold back COVID-19 contamination*   *June 2020 - June 2021*
- Developed a contactless scanning system to easily identify and isolate COVID-19 presumptive cases based on body temperature to restrict infection transmission at a premise.

Medica *A universal healthcare management system*   *February 2020 - June 2021*
- Modeled a shared database system for electronic healthcare service management in all the hospitals nationwide. Responsibilities included requirement exploration, feasibility analysis, UI mockup designing, website implementation building queries for feature-related operations.

Achievit *An online e-learning and evaluation management platform*   *July 2019 - October 2019*
- Developed a website for education management system that can also be used as a forum for sharing useful links.

Others -   *July 2018 - July 2023*
- **Will It Rain Today -** Implemented a simple program that calculated the transition probability and stationary distribution from a rainfall dataset and determined probability of rainfall from a given sequence of weather using Markov chain.
- **The Food Web -** Redesigned Lotka-Voltera model to simulate how the population of 3 animals (grasshopper, frog, snake) in a food web affect each other in an ideal environment. The graph obtained from the experimental results showed characteristics analogous to the graphs of the original model.

- **Fanorona -** Implemented an adversarial search algorithm for a 2-player strategic board game called Fanorona.
- **Who Wants to Be A Coder -** Designed a quiz game using C-programming language that used a file-based approach for storing player info and high scores.

PUBLICATIONS

Conference Article

Hasan I, **Khan MM**, Rahman KT, Mayesha AS, Sultana Z & Islam MN. VR Glove: A Virtual Input System for Controlling VR with Enhanced Usability and High Accuracy. In Proceedings of the IEEE 25th International Conference on Computer and Information Technology (ICCIT 2022), 17 - 19 December, 2022, Cox's Bazar, Bangladesh

Conference Article

Habib F, Fatema T, **Khan MM**, Khan NI & Islam MN. Exploring Design Attributes and Development of an Acoustic VR Game to Improve Ethical Values of Visually Impaired People. In Proceedings of the IEEE 7th International Conference for Convergence in Technology (I2CT 2022), 07 - 09 April, 2022, Pune, India

Extended Abstract

Hasan I, Reza, MR, Rahman KT, **Khan MM**, Fatema T, Saleh SB, Rabbi MF, Munir MB, Rahman MM. Thermique: An Integrated AI-based Temperature Sensing and Management System to Hold Back Covid-19 Contamination. Oral presentation at IEEE Computer Society Bangladesh Chapter Winter Symposium 2020, Dhaka, Bangladesh

SELECTED TRAINING

● Game Design and Development 1 | *Michigan State University* | *Coursera*	*August 2021*
● Python for Data Science | *Kiron*	*April 2021 - June 2021*
● Industrial Training | *Solution Art Ltd* | *Dhaka, Bangladesh*	*March 2021*
● CompTIA A+ | *New Horizons Computer Learning Centers* | *Bangladesh*	*February 2018 - March 2018*