Shafiq-us Saleheen

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Portfolio: https://saleheenshafiq9.github.io/

EDUCATIONAL BACKGROUND

Institute of Information Technology, University of Dhaka, Bangladesh

B.Sc. in Software Engineering   **Jan 2019 - Dec 2023**
  - CGPA: 3.86/4.00

IELTS
  - Overall: 7.5   **Apr 2024**
  - Listening: 8.5, Reading: 7.5, Speaking: 7, Writing: 6.5

EXPERIENCE

Software Engineer

Samsung R&D Institute Bangladesh, Dhaka, Bangladesh   **Feb 2024 - Present**

  - Currently working in Samsung's SmartThings Web project -
    - Contributed as full-stack developer in recent releases.
    - Packaged the application into containers, deployed and orchestrated them.
    - Prepared documentation & user manual.
  - Contributing in research & innovation -
    - Submitted DOIs on AR/VR related solutions.
    - Built PoCs for generative AI, UWB/BLE & AR/VR related solutions.
  - Training on system design fundamentals, clean code & refactoring, generative AI.
  - **Technical Skill:** NEXT JS, Micronaut (Kotlin), DynamoDB, Android SDK, Java, FastApi, Docker, MongoDB, MySQL, Ubuntu Linux, Git, Visualization
  - **Soft Skill:** Effective communication, Task adaptation, Time management, Teamwork, Agile principles

Research Intern

Secure Platforms Lab (SPL), William & Mary, Williamsburg, VA, USA   **Jun 2023 - Dec 2023**

  - Worked under the supervision of Dr. Adwait Nadkarni
  - Mostly focused on secure software systems
  - Developed a tool for characterizing android application
  - **Technical Skill:** Android, Java, JadX
  - **Soft Skill:** Technical writing, Effective communication

Software Engineering Intern

Streams Tech Ltd.   **Dec 2022 - Jun 2023**

  - Automated data cleaning processes, used chunking & scheduling for Kobo Toolbox R&D.
  - Developed an automated error generation tool for conducting checks on shapefiles.
  - Worked on GIS projects and manipulated data for testing purpose.
  - Tested multiple projects with both automated & manual testing process.
  - **Technical Skill:** C#, Python, Docker, PostgrreSQL, QGIS, PostGIS
  - **Soft Skill:** Analytical thinking, Negotiation skills, Effective communication

RESEARCH PROJECTS

"Where's the Line Between Evolution and Exploitation?" - Generative AI & the Postcolonial Evolution of Software Landscape in the Global South

University of Dhaka, Dhaka, Bangladesh   **May 2024 - Present**

- One of the authors of the paper submitted for the International Conference on Human-Computer Interaction (CHI), 2025.
- Conducted a qualitative study on the adoption and impact of Generative AI (GAI) tools in Bangladesh's software industry.
- Integrated post-colonial computing principles to assess the implications for the Global South.
- Analyzed GAI's effects on software processes and highlighted new roles along with potential job shifts.
- Addressed ethical issues like data dispossession and privacy, advocating for fair AI practices.
- **Technical Skill:** Ethnographic research, Postcolonial computing, Thematic analysis, SDLC, Data security
- **Soft Skill:** Open-ended interviews, FGD conduction, Effective communication

IoTWhiz: An IoT Android App Characterization Tool

University of Dhaka, Dhaka, Bangladesh   **Jun 2023 - Dec 2023**
(In collab. with William & Mary, Williamsburg, VA, United States)

- Developed a tool to analyze and characterize IoT/non-IoT android applications using program slicing techniques, providing insights into their structure, behavior, and dependencies.
- Implemented the feature allowing users to download and decompile APKs directly from the AndroZoo repository using API keys and SHA256 codes.
- Automated report generation, comparing IoT and non-IoT apps across various metrics like code complexity, reflection usage, data storage strategies, and permissions.
- Developed a web interface to control the navigation and show the interpretation of complex analysis results.
- **Technical Skill:** Java, React JS, FastApi, SQLite, JadX, Hypothesis testing, Visualization
- **Soft Skill:** Clean code, Critical thinking, Report writing
- **GitHub:** https://github.com/saleheenshafiq9/IoTWhiz
- **Report Link:** PDF

PharmaSync: Optimizing Security and Transparency in Pharmaceutical Supply Chains using Decentralized Hybrid Blockchain

International Blockchain Olympiad 2023, Amsterdam, Netherlands   **Jul 2023 - Present**

- Developed PharmaSync, to address critical issues in pharmaceutical supply chains, including privacy, drug counterfeiting, and emergency drug shortages.
- Integrated zero-knowledge proofs to enhance security while maintaining transparency.
- Upgraded the supply chain management system to handle cold chain management, product recalls, and compliance issues.
- Implemented hybrid blockchain architecture to balance transparency and privacy.
- **Technical Skill:** NEXT JS, Hedera consensus, Hyperledger indy, Solidity, Azure, IPFS
- **Soft Skill:** Team work, Problem solving, Technical writing, Presentation skills
- **Paper Link:** PDF

Software Requirements Specification (SRS) for the ERP System of Chittagong University (CU)

University of Chittagong, Chitttagong, Bangladesh   **May 2023 - Aug 2023**

- Improved the current manual processes of CU by proposing an automated ERP system.

- Made the system more extensible by proposing a modular and adaptable architecture that supports all administrative and academic activities.
- Extended cross-departmental support for all faculties and administrative units within CU.
- Prepared the user manual and documentation.
- **Technical Skill:** Software architecture, Modular design, System automation, Requirements analysis
- **Soft Skill:** Critical thinking, Best practices for documentation workflow
- **Report Link:** PDF

FLoS: Fix Localization System
ICSE SCORE 2023   **Oct 2022 - Feb 2023**

- Developed a tool to detect and resolve localization issues in Android apps.
- Automated testing and fixing of text and media content localization.
- Applied genome sequencing for GUI consistency and text-to-speech for media localization.
- **Technical Skills:** React JS, Django, PostgreSQL, MinIO, Tesseract OCR, MyMemory API, PyLint, Selenium IDE, Burp Suite
- **Soft Skills:** Team coordination, Problem-solving, Software testing, Documentation
- **Report Link:** PDF

Evaluate the Effectiveness of Software Project Lab-2 (SPL-2) & Web Technology Course Sequence to Improve Student's Web Development Skills
University of Dhaka, Dhaka, Bangladesh   **Aug 2022 - Oct 2022**

- Used Goal-Question-Metric (GQM) approach in the research methodology.
- Automated data collection and analysis using structured questionnaires and statistical tests.
- Extended the analysis to cover a broad range of metrics, including student satisfaction, project difficulty, and the relevance of web technologies in SPL-2
- Visualized charts & tables for clearer interpretation.
- **Technical Skill:** Hypothesis testing, Visualization
- **Soft Skill:** GQM preparation, Survey design, Data collection, Analyzing responses
- **Report Link:** PDF

ACADEMIC PROJECTS

Cricket Winner Prediction - Domain Based Feature Engineering and Analysis

- The project aims to predict the winner of cricket matches by analyzing internal and external factors of a team. It focuses on feature engineering to improve prediction accuracy.
- It suggested that incorporating additional data, like weather conditions, could improve predictions.
- **Models Used:** Logistic regression, Decision tree, Random forest, and Support vector machine (SVM)
- **Report Link:** PDF

Save The Date: A Party Planner

- Save The Date is a party planning web application which serves as a centralized hub, connecting various party service providers (caterers, decorators, vendors etc.) with potential customers.
- Built a recommendation system using K-Nearest Neighbor algorithm to suggest a complete plan for services to avail based on user inputs like date, budget, and location.
- Created appointment scheduling and party booking system.
- **Technologies:** React JS, Django REST, MongoDB
- **GitHub:** https://github.com/saleheenshafiq9/SaveTheDate

Earth & Beyond Earth

- Earth & Beyond Earth is a dynamic website to explore earth and solar system with clickable map features.
- Built a gamification model to test knowledge about different countries and the solar system.
- Used web-scraping to extract information.
- Modeled interactive games to memorize the world map.
- Integrated a chat system to communicate with people from different regions.
- **Technologies:** React JS, FastApi, SQlite
- **GitHub:** https://github.com/Labonnya/Earth-and-Beyond-Earth

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CO-CURRICULAR ACTIVITIES

Online Courses -

- The Art of API Documentation - Certificate [2024]
- Python for Computer Vision with OpenCV and Deep Learning - Certificate [2024]
- Google Data Analytics Specialization - Certificate [2021]
- Google UX Design Specialization - Certificate [2021]
- Technical Support Fundamentals - Google - Certificate [2020]
- Work Smarter, Not Harder: Time Management for Personal & Professional Productivity - UCI - Certificate [2020]

EXTRA-CURRICULAR ACTIVITIES

- President, IIT Software Engineers' Community (2023-2024)
- Vice Chair, IEEE Computer Society Student Branch Chapter DU (2023-2024)
- Vice-president, IIT Software Engineers' Community (2022-2023)
- Operations Manager, IIT Football Team (2023-2024)
- Organizer, ITverse 2023 (National Tech Fest)
  - News Link: Article
  - Talk Show: Video
- Volunteer at a COVID Fundraiser, Fight For Life 2020
  - Link: http://www.iit.du.ac.bd/view_news_events/view_news_events_details/105
- Organizer, ITverse 2020 (National Tech Fest)
- Workshop Organizer, Tech Crunch 2.0: IT Female Awareness Workshop 2019
  - News Link: Article
- Publicity Secretary, IIT Debating Club (2020-2021)

ACHIEVEMENTS

Award of Distinction, 6th International Blockchain Olympiad 2023, Amsterdam, Netherlands

- Won the award for a supply chain solution named - "PharmaSync: Optimizing Security and Transparency in Pharmaceutical Supply Chains using Decentralized Hybrid Blockchain"
- Certificate Link: PDF

Professor Jamilur Reza Choudhury Championship Award, 4th National Blockchain Olympiad 2023, Dhaka, Bangladesh

- News Link: 'Team Pharmars' -the Best team at the 4th Blockchain Olympiad

Finalist, Learnathon 2022, Dhaka, Bangladesh

- Won the award for a twitter clone website using Angular & .NET framework

Finalist, Hult Prize 2023-24 on Campus Program of ULAB, Dhaka, Bangladesh

- Won the award for an idea called "Turning Invasive Suckerfish into Sustainable Fertilizer".

Champion, RUET CSE Fest 2k22, Rajshahi, Bangladesh

- Won the award for an app for chemistry learning called "Chemoflouge" using Unity game engine.

Dhaka Education Board Scholarships (Govt.)

- General Scholarship, HSC, 2018
- Talent pool Scholarship, JSC, 2013
- Talent pool Scholarship, PEC, 2010

Scholars' Welfare Foundation Scholarship 2013

SKILLS

- Programming Languages: C, C++, C#, Python, Java, Javascript, Kotlin, R, PHP, Dart, Solidity
- Front-end Technologies: React JS, Next JS, Angular, Tailwind CSS, Bootstrap, HTML, Flutter
- Back-end Technologies: FastApi, Django REST, Node JS, Express JS, Micronaut
- Database Technologies: MySQL, PostgreSQL, SQlite, DynamoDB, MongoDB
- Others: Docker, Git, Figma, Postman, Design Patterns, Microservice basics, QGIS, Tableau
- Soft Skills: Leadership, Planning, Presentation, Taking interviews, Teamwork, Documentation, Analytical thinking, Time management

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REFERENCES

Adwait Nadkarni
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