MD Farhad Hossain

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RESEARCH INTEREST

Artificial Intelligence (AI), Blockchain (BC), Computer Vision, Human-Computer Interaction (HCI), Software Engineering

ACADEMIC QUALIFICATION

Institute of Information Technology, Jahangirnagar University   Dhaka, Bangladesh
Bachelor of Science in Information Technology; **CGPA: 3.53 out of 4.00**   *Mar 2017 - May 2022*

EMPLOYMENT

Software Engineer, Cefalo AS ⧉ — Kotlin, Java, Spring boot, Angular, React   Dhaka, Bangladesh
Mar 2022 - Current

- Designed and implemented **REST API**s, resulting in a **17%** increase in overall performance.
- Optimized server response time by **15%** by restructuring API and optimizing database queries using **MongoDB** and **PostgreSQL**.
- Increased user engagement by **21%** by improving usability and accessibility for non-technical users using React's **PrimeReact** library and Angular's **Material UI** and **PrimeNG**, aligning with key HCI principles.
- Integrated **Elasticsearch** to efficiently retrieve **millions** of records, using DSL queries for nested rules. Contributed to a custom **query builder** for complex Elasticsearch queries.
- Manage the **Repository** module handling physical archival units (e.g., storage units, racks, shelves), ensuring efficient tracking and space management.
- Collaborate with **European stakeholders** in an **agile development** environment to develop software solutions, review code, fix bugs and contribute to documentation efforts.

AI Prompt Tester, Remotasks — Angular, Python, C++, Typescript, HTML, CSS   Remote
July 2023 - Current

- Developed solutions for coding problems, ensuring code correctness and efficiency.
- Created comprehensive test cases to validate the functionality of the implemented solutions.
- Prepared problem summaries to provide context and clarity for the development team.
- Crafted detailed explanations of coding solutions, demonstrating the effectiveness of the chosen approach.

PUBLICATIONS

- **Toward machine learning-based psychological assessment of autism spectrum disorders in school and community**. Sabbir Ahmed, Md Farhad Hossain, Silvia Binte Nur, M Shamim Kaiser, Mufti Mahmud. Proceedings of Trends in Electronics and Health Informatics: TEHI 2021, Pages 139-149, ⧉
- **Convid-net: an enhanced convolutional neural network framework for covid-19 detection from x-ray images**. Sabbir Ahmed, Md Farhad Hossain, Manan Binth Taj Noor. Proceedings of International Conference on Trends in Computational and Cognitive Engineering: Proceedings of TCCE 2020. Pages 671-681. ⧉
- **Artificial intelligence and machine learning for ensuring security in smart cities**. Sabbir Ahmed, Md Farhad Hossain, M Shamim Kaiser, Manan Binth Taj Noor, Mufti Mahmud, Chinmay Chakraborty. Data-Driven Mining, Learning and Analytics for Secured Smart Cities: Trends and Advances. Pages 23-47 ⧉
- **Computational intelligence in detection and support of autism spectrum disorder**. Sabbir Ahmed, Silvia Binte Nur, Md Farhad Hossain, M Shamim Kaiser, Mufti Mahmud, Tianhua Chen. Artificial Intelligence in Healthcare: Recent Applications and Developments. Pages 179-197 ⧉
- **Eligible Personal Loan Applicant Selection using Federated Machine Learning Algorithm**. Mehrin Anannya, Shahera Khatun Most, Md Biplob Hosen, Sabbir Ahmed, Farhad Hossain, M Shamim Kaiser. International Journal of Advanced Computer Science and Applications. Volume 14, Issue 8. ⧉
- **A Multimodal Autism Spectrum Disorder (ASD) Dataset** Sabbir Ahmed, Md Farhad Hossain, Silvia Binte Nur, M Shamim Kaiser. Data in Brief, Elsevier. (Under Review)

PROJECTS

- Loan Sanctioning System using **NodeJS, ExpressJS, ReactJS, tensorflow.js:** Developed a web-based loan prediction app using machine learning. Users apply for loans and employees predict approval. ⬀

- farhadcodes-a-CP-blog using **Java, Spring Boot, React.js:** Developed a web blog with user authentication, enabling posting, editing, and deleting stories. ⬀

PROGRAMMING COMPETITIONS EXPERIENCE

TEAM COMPETITIONS

- Top **2.2**%, 39th out of 1747 participants, ICPC Dhaka Regional Preliminary 2021, Team: JU_O(n^3)FanClub ⬀
- Top **4.3**%, 78th out of 1805 participants, ICPC Dhaka Regional Preliminary 2019, Team: JU_DarkSideOfTheMoon ⬀
- **2nd Runner-up,** Bangladesh section, IEEEXtreme 14.0 2020, Team: JuPsychosocial ⬀
- **2nd Runner-up,** Bangladesh section, IEEEXtreme 13.0 2019, Team: CGPAisProbabilistic ⬀
- Participated in more than **15** regional, national, and inter-university Programming Contests

INDIVIDUAL COMPETITIONS

- **2nd,** Bangladesh section, Leetcode Biweekly Contest 28, Handle: thehalfblo0dprince ⬀
- **Google Kickstart Round B 2022:** Ranked **540**th out of **7.2k** participants. ⬀
- **Meta Hacker Cup 2022:** Ranked **2588**th out of **44.1k** participants(Qualified up to Round 2)⬀
- **2nd,** Bangladesh section, Leetcode Weekly Contest 187, Handle: thehalfblo0dprince ⬀
- **Codeforces**: **Top 7.89**%, Max Rating: **1641**(handle: thehalfblo0dprince) ⬀
- **Codechef**: **Top 1.36**%, Max Rating: **1913** (username: frdhsn) ⬀
- Solved over **2600+** programming problems on different online judges ⬀

TECHNICAL SKILLS

Skill	Advanced	Intermediate	Basic
Programming Language	C, C++, Java, JavaScript, Python	TypeScript, Kotlin, SQL	Go, R
Frameworks	Spring, Angular	Node.js, Express.js, React	Next.js, Flask
Libraries	TensorFlow, pandas, OpenCV	scikit-learn, PyTorch	LangChain, LlamaIndex
Databases	MySQL, PostGreSQL, MongoDB	Cassandra, Redis	Firebase
Others	Git, Jira, Bitbucket	Docker, Kubernetes	AWS, Azure

LEADERSHIP AND EXTRACURRICULAR ACTIVITIES

Competitive Programming Community, IIT, Jahangirnagar University Dhaka, Bangladesh
Team Lead & Senior Trainer *Mar 2019 - Current*

- Coordinate contests, and teach **150+ participants** programming concepts including Graph algorithms, Data structures, Dynamic Programming, etc.

IEEE Student Branch, Jahangirnagar University ⬀ Dhaka, Bangladesh
Vice Chair *Jan 2021 - Mar 2022*

- Coordinated and hosted multiple events including IEEEXtreme hackathons.