Md Rakibul Hasan

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in LinkedIn   ⭘ Github   🎓 Google Scholar   💼 Portfolio

EDUCATION

Shahjalal University of Science and Technology   Sylhet, Bangladesh
Bachelor of Science in Software Engineering   *Feb 2018 - Dec 2022*
GPA: 3.79/4.00 (4th)
Courses: OOP, Algorithms, Operating Systems, Data Structures, Design Patterns, Data Science, AI, ML

RESEARCH EXPERIENCE

Research Assistant   Oct 2021 – Jan 2023
Bengali.AI   *Dhaka, Bangladesh*

- Led a team of 13 annotators to develop the largest multi-domain Bengali Document Layout Analysis Dataset (BaDLAD), consisting of 33.7K document images and 710K polygon annotations.
- Standardized exported annotation data, performed comprehensive data analysis and visualization, and processed content to ensure compatibility with machine learning models while supporting dataset validation.
- Published a dataset paper, leveraging BaDLAD for training deep learning models in Bengali document digitization and layout analysis.
- Implemented a Bengali lemmatizer and compiled the largest dataset of Bengali 'verb forms, categorized by grammatical structure and tense.

INDUSTRY EXPERIENCE

Software Engineer   July 2024 – Present
Cefalo Bangladesh Ltd   *Dhaka, Bangladesh*

- Contributed to the development of a large-scale multi-tenant SaaS platform, focusing on scalable subscription management systems and system reliability.
- Led the implementation of daily statistics tracking for recurring revenue, churn rates, and product usage, enabling data-driven strategies and actionable insights through user behavior analysis.
- Designed and deployed webhooks to improve third-party system integration, reducing manual interventions by 90% and streamlining cross-platform operations.
- Developed communication activity logging for users, enhancing auditability and reducing customer service inquiries

Associate Software Engineer   Feb 2023 – June 2024
Cefalo Bangladesh Ltd   *Dhaka, Bangladesh*

- Designed and implemented comprehensive APIs and conducted extensive unit testing, ensuring robustness and reliability of the application.
- Integrated payment gateways and implemented automated recurring billing, reducing customer churn by 30%.
- Conducted in-depth analysis of tenant data and reduced manual data migration workload by 90% through Bash scripts paired with SQL, facilitating efficient tenant data migration from legacy systems.
- Developed financial reporting modules using data streaming to optimize server resource usage.
- Integrated external newsletter services and automated invoice generation processes.
- Enhanced system usability through global search across entities, improving query performance.

Software Engineer Intern   Sep 2021 – Mar 2022
Cefalo Bangladesh Ltd   *Dhaka, Bangladesh*

- Developed a Slack bot application for real-time weather data retrieval and command execution.
- Automated media sharing and announcements between Slack and Facebook using Slack bot.
- Designed and deployed a blogging platform with unit testing and containerization.

Technical Skills

Languages: JavaScript, C/C++, Bash, Java, Python, SQL, HTML/CSS

Technologies/Frameworks: Linux, Node.js, React, Next.js, Material-UI

Developer Tools: Git, Docker, VS Code, Visual Studio, IntelliJ, Jupyter Notebook

Libraries: Pandas, NumPy, Matplotlib, Scikit-Learn

Publications

MIH Shihab, **MR Hassan**, M Rahman, +14 authors. "BaDLAD: A Large Multi-Domain Bengali Document Layout Analysis Dataset". Proceedings of the *International Conference on Document Analysis and Recognition (ICDAR)*, pages 326-341, August 2023. https://doi.org/10.1007/978-3-031-41676-7_19.

Projects

FileHub | *Python, tkinter*   May 2021 – June 2021
- Developed a file-sharing application using TCP network connections to allow multiple clients to connect to the server concurrently.
- Designed a user-friendly interface for connecting to the network server and for uploading/downloading files.

SWE Society Portal | *ExpressJs, ReactJs, PostgreSQL*   Jan 2021 – Feb 2021
- Developed a web portal to manage profiles, events, notices, blogs, and committees for the Software Engineering Society at SUST.
- Implemented a secure authentication system with different user roles based on permissions.

SWEOJ | *PHP, Javascript, MySQL, HTML, CSS, Bootstrap*   July 2019 – Jan 2020
- Developed a basic online judge platform for hosting programming contests.
- Integrated a compiler that utilizes the host's GNU C++ compiler to execute code.
- Created a private contest environment with live standings to host programming contests for a specific duration.

Teaching and Mentoring Experience

Mentor for Junior Engineers *(2024)* - Provided hands-on guidance to junior engineers at Cefalo Bangladesh Ltd. on HTTP/REST, web development fundamentals, and best practices, helping them build a strong foundation in software development processes.

Private Programming Tutor *(2023)* - Offered personalized tutoring through Upwork and other online platforms, teaching clients programming concepts, improving their problem-solving skills, and building confidence in software development.

Workshop Instructor *(2022)* - During my final year of study, led workshops and classes for first and second year students in the Software Engineering Society, affiliated with the Software Engineering department, focusing on data structures, algorithms, and competitive programming.

Volunteer Experience

Event Coordinator at SUST SWE TECHNOVENT 2023   Sylhet, Bangladesh
Managed sponsorship, organised events, led 100+ volunteers, hosted the national event   *Oct 2022 - Feb 2023*

Event Organizer at IICT Director's Sports Week 2022   Sylhet, Bangladesh
Managed sponsorships, established rules, coordinated game plans and led volunteers.   *Aug 2022 - Sep 2022*