

M. A. AHAD CHOWDHURY

Full-Stack Web Developer • Machine Learning and Big Data Enthusiast

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A full-stack developer experienced in React.js, Node.js, ASP.NET Core, and machine learning. Worked on projects in civil registration, healthcare, and CRM systems. Skills include database management, cloud platforms such as AWS, and DevOps. Completed a Master of Data Science degree and pursuing AWS Solutions Architect certification.

Experience

Software Engineer

April 2021 – May 2022

Apollo International

Sydney, NSW, Australia

Responsible for developing the in-house CRM solution.

Responsibilities:

- Collaborated closely with directors and both onshore and offshore teams to align business requirements and CRM system features with organisational goals.
- Completed the development of a high-performance frontend application using modern libraries and frameworks such as TypeScript, React.js, Redux.js, Next.js, Material UI (MUI), and Storybook.
- Architected and implemented a robust backend solution, including a user authentication service, utilising ASP.NET Core and Entity Framework Core.
- Managed relational and in-memory databases, leveraging PostgreSQL for persistent storage of relational entities and Redis for in-memory response caching and fast data access for user authentication to ensure high availability and quick response times.
- Integrated various third-party systems into the CRM, including lead collection from website contact forms and Facebook (Meta) Ads, to streamline marketing efforts.
- Conducted rigorous frontend testing with Jest, React Testing Library (RTL), and Playwright, ensuring high-quality, bug-free deliverables.
- Performed backend testing using xUnit and Moq to maintain integrity and reliability.
- Deployed applications to VPS environments, managing configurations of Nginx, PM2, and Certbot, and facilitated secure and stable deployments through SSH.
- Provided regular progress updates and strategic insights to the General Manager, ensuring alignment with organizational objectives and technical feasibility.
- Collaborated with cross-functional teams to identify CRM software enhancements and website improvements, delivering solutions that supported operational efficiency.
- Authored comprehensive end-user documentation, detailing operational procedures and system functionalities for seamless adoption by business users.

- Delivered ongoing maintenance, technical support, and system updates to ensure platform stability and address evolving business needs.
- Proposed and implemented continuous improvement initiatives to optimise system performance and expand functionalities.

Junior Software Engineer

February 2019 – January 2020

Dynamic Solution Innovators Ltd. ↗

Dhaka, Bangladesh

Responsible for developing enterprise web applications, following agile (scrum) workflow.

Projects:

- OpenCRVS, a solution for civil registration and vital statistics, backed by Plan International and the government of Bangladesh ([project details](#), [technical details](#)).
- The full-stack solution for Olwel, a Finland-based healthcare startup providing telemedicine and at-home medical care services. ([project details](#), [technical details](#)).

Responsibilities:

- *OpenCRVS*:
 - * Engineered key frontend features and bug-fixes utilizing TypeScript, React.js, Redux.js, and Formik to deliver a responsive and user-friendly interface.
 - * Developed features and fixed bugs of scalable backend services using TypeScript, Node.js, Hapi.js, MongoDB, GraphQL, and Docker.
 - * Ensured code reliability through extensive unit testing with Jest
 - * Composed end-to-end tests with Cypress to guarantee predictable user experience.
 - * Refactored code to achieve target code coverage, improving maintainability.
 - * Collaborated with the scrum master and team members during sprint planning and daily stand-ups, aligning on goals and progress.

([commits on GitHub](#) ↗)

- *Olwel*:
 - * Contributed to frontend projects using React.js, Redux.js, Electron.js, and MUI.
 - * Contributed to backend services using Node.js, Hapi.js, RethinkDB, and AWS S3.
 - * Optimised RethinkDB queries by 20%-50%, reducing overall load times.
 - * Wrote comprehensive unit tests with Mocha to ensure system reliability.
 - * Developed database migration scripts to anonymize patient data for compliance with requirements of an external research project.
 - * Led dependency upgrades across the codebase, ensuring smooth transitions while preserving system stability.
 - * Innovated and executed new projects, including a medical prescription app for doctors, further expanding the platform's feature set.
 - * Regularly reported development progress and technical decisions to the CTO and business stakeholders, ensuring alignment with business objectives and timelines.

Education

Master of Data Science

Aug 2023 – September 2024

Sydney Polytechnic Institute

Sydney, NSW, Australia

Capstone project: Investigation for Identification of the Most Effective Machine Learning Method for Credit Card Fraud Detection.

Bachelor of Science in Computer Science & Eng.

January 2014 – August 2018

North South University

Dhaka, Bangladesh

Capstone project: Fruit Image Classification Using Convolutional Neural Networks.

Technical Skills

Languages: C#, JavaScript, TypeScript, Python, SQL, C, R, \LaTeX .

Backend: ASP.NET Core, Entity Framework Core, Dapper, SignalR, Node.js, Express.js.

Frontend: Tailwind CSS, React.js, Redux.js, Next.js, Svelte, Astro, Blazor, PWA.

Database: MySQL, PostgreSQL, SQL Server, MongoDB, Redis, SQLite.


Machine Learning: Numpy, Pandas, Scikit-learn, Tensorflow/Keras.


Big Data: Apache Hadoop (HDFS, MapReduce, YARN), Apache Spark.


DevOps: Docker, CI/CD, SSH, Nginx.

Platforms: AWS (S3, EC2, ELB, Lambda, RDS, DynamoDB, SQS, SNS, SES), Azure App Service, PaaS (Vercel, Heroku).

Publications

Rahman, N.S.M.R., **Chowdhury, M.A.A.**, Siraj, A.A.N., Rahman, R.M., Karim, R., & Alam, K.M.A. (2018). Selection of Most Suitable Secondary School Alternative by Multi-Criteria Fuzzy Analytic Hierarchy Process. *Multimedia and Network Information Systems*, 279–289. doi:10.1007/978-3-319-98678-4_29. [link](#) 

Ashraf, S., Kadery, I., **Chowdhury, M.A.A.**, Mahbub, T.Z., & Rahman, R.M. (2019). Fruit Image Classification by Convolutional Neural Networks. *International Journal of Software Innovation (IJSI)*, 7(4), 51–70. doi:10.4018/ijsi.2019100103. [link](#) 

Rahman, N.S.M.R., **Chowdhury, M.A.A.**, Firoze, A., & Rahman, R.M. (2024). Fusion of BWM and AHP MCDM Methods to Choose the Most Suitable Secondary School for an Individual in Context of Bangladesh. *Vietnam Journal of Computer Science*, 06(03), 311–328. doi:10.1142/s2196888819500167. [link](#) 

References

Available on request.