

# MOHAMMAD ABDUL AHAD CHOWDHURY

Graduate Student of Data Science • Full-Stack Web Developer • AI and ML Enthusiast

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## Experience

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### Software Engineer

20 April 2021 – 10 May 2022

*Apollo International*

*Sydney, NSW, Australia*

Part-time employment for developing the in-house CRM solution.

Responsibilities:

- Development of the frontend project with React.js, Redux.js, Next.js, Material UI etc.
- Development of the backend project with ASP.NET Core, Entity Framework Core, PostgreSQL, Redis etc.
- Unit testing of the backend project with xUnit.
- Unit and end-to-end testing of the frontend project with Jest, React Testing Library, and Playwright.
- Integration and deployment of the solution on a VPS instance using SSH, Nginx, PM2 etc.

### Junior Software Engineer

1 February 2019 – 31 January 2020

*Dynamic Solution Innovators Ltd.*

*Dhaka, Bangladesh*

Full-time employment for developing enterprise web applications, following agile (scrum) methodology.

Projects:

- The OpenCRVS project ([project details](#), [technical details](#), [commits](#)).
- The full-stack solution of Olwel, a healthcare startup ([project details](#), [technical details](#)).

Responsibilities:

- Addition of features and bug-fixes to the frontend projects with React.js, Electron.js, Redux.js etc.
- Addition of features and optimizations to the backend projects with Node.js, Hapi.js, MongoDB, Elasticsearch, GraphQL, Socket.io, Docker, AWS S3 etc.
- Optimization of RethinkDB queries and database migration scripts.
- Composition of unit and end-to-end tests, with Jest, Enzyme, Mocha, and Cypress.

### Research Assistant

1 November 2016 – 30 April 2018

*North South University*

*Dhaka, Bangladesh*

Part-time employment under the Department of Environmental Science & Management ([website](#)) for developing NODES, an airline management system that maximises resource utilisation ([news article](#)).

Responsibilities: Development of the frontend software of NODES with Windows Forms (.NET).

## Education

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### Master of Data Science

October 2023 – June 2024

*Sydney Polytechnic Institute*

*Sydney, NSW, Australia*

Notable Coursework: Database Systems and Infrastructure, Machine Learning and Data Mining, Data Visualisation and Tools, Natural Language Processing and Applications, Big Data Infrastructure and Processing, Artificial Intelligence and Innovation, Professional Practice.

### Bachelor of Science in Computer Science & Engineering

January 2014 – August 2018

*North South University*

*Dhaka, Bangladesh*

Capstone project: Fruit Image Classification Using Convolutional Neural Networks.

Notable Coursework: Data Structure and Algorithm, Software Engineering, Artificial Intelligence, Theory of Fuzzy Systems, Computer Graphics, Microprocessor Interfacing & Embedded System ([Repositories on GitHub](#)).

## Technical Skills

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**Languages:** C#, JavaScript, TypeScript, Python, SQL, C, R.

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

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

**Database:** MySQL, PostgreSQL, MongoDB, Redis, SQLite.

**Machine Learning:** NumPy, Pandas, Matplotlib, NLTK, Scikit Learn, Keras, Tensorflow, ML.NET.

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

**DevOps:** Docker, PaaS, IaaS, CI/CD, SSH, Nginx.

**Platforms:** Azure App Service, AWS (S3, EC2, Lambda, SQS, SNS, DynamoDB).

Last edited on March 27, 2024. The latest version of this document is available at [pia.sh/resume](https://pia.sh/resume).

## Projects

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**KonSchool** | *Web application, Recommendation system*

Hosted on [Azure](#) | GitHub: [KonSchool](#)

- Fuzzy-AHP-based recommendation system for secondary schools in Bangladesh.
- Tech stack: ASP.NET Core, MongoDB, xUnit, Moq.
- Status: completed, with unit and e2e tests at 95% coverage.
- Another version is in development, with separate web APIs and a frontend developed with Blazor.

**Connery** | *Web application, Deep learning*

GitHub: [Connery](#)

- Fruit image classifier using convolutional neural networks.
- Tech stack: ML.NET, ASP.NET Core.
- Status: complete, offline.

**Winston** | *Machine learning, Deep learning*

GitHub: [Winston](#)

- Implementation of neural networks from scratch.
- Tech stack: C, CMake.
- Status: in progress.

**Vardict** | *Library, Package*

[NPM package](#) | GitHub: [Vardict](#)

- CLI argument parser.
- Tech stack: Node.js.
- Status: completed.

## Open Source Contributions

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- [ubuntu-mate/ubuntu-mate.org#141](#)
- [sandoche/Darkmode.js#9](#)
- [howtocode-dev/git.howtocode.dev#21](#)
- [NetDevPack/Security.Jwt#44](#)

## Publications

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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. Advances in Intelligent Systems and Computing, vol 833. Springer, Cham. [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), Volume 7, Issue 4, Article 4. [link](#)

Rahman, N.S.M.R., **Chowdhury, M.A.A.**, Firoze, A., Rahman, R.M. (2019). Fusion of BWM and AHP MCDM Methods to Choose the Most Suitable Secondary School for an Individual in Context of Bangladesh. [link](#)

## References

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Available on request.