Mohammad Abdul Ahad Chowdhury

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Bangladeshi graduate student of Data Science at Macquarie University, with experience in full-stack web development and academic machine learning projects. Looking for a part-time/casual employment in the IT industry.

Education

Master of Data Science
Macquarie University
New South Wales, Australia
February 2020 – December 2021 (Tentative)
Coursework: Data Science, Big Data

Bachelor of Science in **Computer Science and Engineering**
North South University
Dhaka, Bangladesh
January 2014 – August 2018
Capstone project: Fruit Image Classification Using Convolutional Neural Networks [GirHub repo]
Senior-year elective courses: Machine Learning, Artificial Intelligence, Theory of Fuzzy Systems
Other coursework: Computer Graphics, Software Engineering, Microprocessor Interfacing & Embedded System

Technical Skills

- **Programming languages** (in order of skill level): C#, JavaScript (ES6), TypeScript, Python, C, Java, C++, R
- **Web Development**:
  - ASP.NET Core, EF Core, SignalR, Blazor
  - React.js, Angular, Express.js, Hapi.js
  - Socket.IO, ReST, GraphQL, Microservices
- **Desktop app development**: Windows Forms, WPF, UWP, Electron.js
- **Data Science and Engineering**: Jupyter Notebook, NumPy, Pandas, Matplotlib, NLTK, Scikit-Learn
- **Database management and query**: PostgreSQL, MongoDB, SQLite, RethinkDB
- **Tools and Platforms**: Docker, MongoDB Atlas, Heroku, Azure DevOps, basic CI/CD
- **Development management**: Agile (scrum)

Publication

- Selection of Most Suitable Secondary School Alternative by Multi-Criteria Fuzzy Analytic Hierarchy Process. (Springer/AISC, 2019)
- Fruit Image Classification by Convolutional Neural Networks. (IGI Global/IJSI, 2019)
- Fusion of BWM and AHP MCDM Methods to Choose the Most Suitable Secondary School for an Individual in the Context of Bangladesh. (World Scientific/VJCS, 2019)

Work Experience

Junior Software Engineer at **Dynamic Solution Innovators Ltd.**
01 February 2019 – 31 January 2020 • Dhaka, Bangladesh
An enterprise software company [Website]. Worked here on Node.js-based web applications.

- **Project**: **Olwel** • 01 August 2019 – 31 January 2020 [Client's website]
  Environment: JavaScript, Hapi.js, React.js, Electron.js, Socket.IO, RethinkDB
  Contribution:
  - ✓ Implemented attendance recording system for doctors and call-center operators.
  - ✓ Added search-by-date and search-by-name for doctor visits (a.k.a. 'missions').
  - ✓ Implemented sending mission-specific notes to the doctor on the mission.
  - ✓ Made missions-list-view component load faster by 50% by optimizing API calls.
  - ✓ Wrote unit tests (Mocha); added test coverage (Istanbul).
  - ✓ Wrote scripts for generating reports on missions, with customized anonymization of patients' personal data, for a research on the 2019 dengue outbreak in Dhaka.

- **Project**: **OpenCRVS** • 01 March 2019 – 31 July 2019 [Website • GitHub repo]
  Environment: TypeScript, Hapi.js, React.js, GraphQL, MongoDB, Docker (Swarm)
  Contribution:
  - ✓ Implemented lock-screen PIN setting policy.
  - ✓ Implemented lock-screen timeout using browser's page visibility API.
  - ✓ Added conditional validation for co-dependent form-fields.
  - ✓ Added offline data storage for form drafts that uses browser's localStorage API.
  - ✓ Wrote unit tests and integration tests; refactored code to increase test coverage.
  [View commits on GitHub repo]

Research Assistant at **North South University**
01 November 2016 – 31 March 2018 • Dhaka, Bangladesh
Part-time employment under the Department of Environmental Science and Management (website) for a research project titled "Satellite-based Navigation in Civil Aviation: Performance Evaluation in the Context of Bangladesh" [News article]
Contribution: Developed the desktop application (using Windows Forms) for NODES, an airline management software that uses linear optimization to maximize usage of resources.

Personal Projects

- **Connery** – ML.NET, TensorFlow.NET, ASP.NET Core [API (Swagger)] [GitHub repo]
  Fruit-image-classifier that uses convolutional neural network.

- **Kon School?** – ASP.NET Core, MongoDB [Azure • Heroku] [GitHub repo] [Docker]
  Fuzzy-AHP-based recommendation system for secondary schools in Bangladesh.

- **Winston** – C, Cmake [GitHub repo]
  Implementation of neural network from scratch. *WIP*.

- **Vardict** – Node.js, Typescript [NPM package] [GitHub repo]
  A basic Node.js package for parsing labeled CLI arguments.

- **AddLicenseHeader** – .NET Core [NuGet package] [GitHub repo]
  A CLI tool that adds a license header on top of each source file of a directory.

- **MqFind** – Node.js, TypeScript, Hapi.js, React.js [GitHub repo]
  A web app that shows listings of accommodation near Macquarie University campuses.

Open Source Contribution

- ★ sandoche/Darkmode.js: A Node.js package for adding dark-mode-toggle to websites.
- ★ howtocode-com-bd/git.howtocode.com.bd: A tutorial on Git, in Bengali.
- ★ devsonket/devsonket.github.io: Developer cheat-sheet in Bengali.