

Md Rayed Bin Wahed

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Software engineer with substantial experience in developing SaaS applications and machine learning. An ambitious yet pragmatic team leader with a track record of implementing novel ideas. Humble and cheerful, a firm believer in using technology for a more equitable, ethical, and greener society.

WORK EXPERIENCE

• Therap (BD) Ltd.

Team Lead, Machine Learning

Dhaka, Bangladesh

Oct 2019 - Present

Therap (BD) Ltd. is a wholly-owned subsidiary of Therap Services LLC., USA. Therap is a web-based application suite designed to provide a comprehensive solution for the planning, documentation, reporting, and billing needs of organizations supporting people with Intellectual and Developmental Disabilities (IDD).

- **Pulse Oximetry:** Implemented a system to track blood oxygen saturation (SpO2) and heart rate of IDD individuals as an early detection mechanism for COVID-19. Saved the lives of 2 individuals so far.
- **Optical Character Recognition:** Leveraged OCR to extract SpO2 and heart-rate measurements from images of pulse oximeters. Eradicated false data entry.
- **Customer Retention:** Trained a classification model to predict the quarterly status of Therap customers. Developed a feature recommender system to facilitate greater discovery of services. Increased retention rate by 10%.
- **Fall Detection:** Implemented an RNN model to detect accidental falls from gyroscope and accelerometer data. The system improved caregivers responsiveness by 80%.
- **Face Recognition:** Implemented a face recognition model to identify and track unauthorized individuals from a live video feed. Improved on-premise security. The model had an accuracy of 97%.
- **Sleep Analysis:** Utilized sensor readings from sleep mats, smartwatches, and smart-rings to implement comprehensive sleep profiles (sleep state diagrams, bed in/out statistics) of individuals. The intention was to inform caregivers of the quality of sleep the individuals.
- **Related Technologies:** Python, TensorFlow 2.0, Scikit-Learn, PyTorch, Numpy, Pandas, Matplotlib, Seaborn, Plotly, Docker, Jupyter Notebooks, React, GraphQL, AWS Amplify.

• Therap (BD) Ltd.

Full Stack Software Engineer

Dhaka, Bangladesh

Oct 2016 - Sep 2019

- **Back-end:** Worked closely with engineering teams to understand product requirements, draw up design specifications, and implement core application features in Java using Spring MVC and Hibernate ORM.
- **Front-end:** Implemented interactive UI components in JavaScript. Reduced code clutter and improved site responsiveness by 20%.
- **Database:** 3+ years of experience with Oracle Database and MySQL. Wrote PL/SQL to migrate large volumes of data. Implemented indices for faster queries and optimization.
- **Deployment:** Extensive experience deploying applications in Oracle Weblogic Server. Used Gradle to build applications and manage dependencies.
- **API:** Proficient in implementing and consuming REST and GraphQL APIs. Considerable experience developing serverless applications using frontend libraries like React.
- **Related Technologies:** Node, Flask, Docker, NoSQL IntelliJ IDEA.

PROJECTS

• We Are X

Machine Learning Consultant (Contractual, Remote)

Dhaka, Bangladesh

Jan 2019 - Mar 2019

Online social-media customer service platform for large enterprises.

- **Task:** Implemented a text classification model to classify customer queries written in Bengali and English. Achieved 90% accuracy working on a limited dataset.
- **Outcome:** Improved customer service representative productivity by 30% allowing We Are X to meet market demand keeping existing infrastructure intact.

CERTIFICATES

- **Machine Learning Nanodegree**

Udacity

Dhaka, Bangladesh

Nov 2019 - Jan 2020

- **Certificate earned on January 30, 2020:** [Link to Certificate](#).
- **Project:** Implemented a Human Activity Recognition (HAR) LSTM deep learning model using WISDM Smartphone and Smartwatch Activity and Biometrics Dataset. Obtained an accuracy of 90% using just the smartwatch data.

- **Machine Learning with TensorFlow on Google Cloud Platform Specialization**

Google Cloud Authorized Online Training

- **End-to-End Machine Learning with TensorFlow on GCP by Google Cloud on Coursera.** Certificate earned at Saturday, January 12, 2019 4:58 AM GMT: [Link to Certificate](#).
- **Intro to TensorFlow by Google Cloud on Coursera.** Certificate earned at Thursday, January 3, 2019 5:01 PM GMT: [Link to Certificate](#).

- **Deep Learning Specialization**

Online Courses Taught by Professor Andrew Ng of Stanford University

- **Deep Learning, a 5-course specialization by deeplearning.ai on Coursera.** Specialization Certificate earned on April 9, 2018: [Link to Certificate](#).
- **Sequence Models by deeplearning.ai on Coursera.** Certificate earned at Monday, April 9, 2018 1:34 AM GMT: [Link to Certificate](#).
- **Convolutional Neural Networks by deeplearning.ai on Coursera.** Certificate earned at Saturday, March 10, 2018 4:36 PM GMT: [Link to Certificate](#).
- **Structuring Machine Learning Projects by deeplearning.ai on Coursera.** Certificate earned at Monday, January 22, 2018 12:32 PM GMT: [Link to Certificate](#).
- **Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization by deeplearning.ai on Coursera.** Certificate earned at Wednesday, January 17, 2018 5:16 PM GMT: [Link to Certificate](#).
- **Neural Networks and Deep Learning by deeplearning.ai on Coursera.** Certificate earned at Friday, January 12, 2018 5:45 AM GMT: [Link to Certificate](#).

EDUCATION

- **BRAC University**

Bachelor of Science in Computer Science

Dhaka, Bangladesh

Jan 2012 - Aug 2016

- **High Distinction:** Awarded High Distinction for a Cumulative Grade Point Average (CGPA) of 3.75/4.00.
- **Merit Based Scholarship:** Awarded Merit Based Scholarship for the duration of the entire program.
- **Teacher Assistant:** Worked part-time as a TA for courses Data Structures and Discrete Mathematics starting junior year.

AWARDS AND HONORS

- **President's Volunteer Service Award**

President's Council on Service and Civic Participation

USA

Aug 2008

- **Recognition:** Awarded President's Volunteer Service Award from the President's Council on Service and Civic Participation for outstanding service to community and country.

- **Youth Exchange and Study (YES) Program**

Aspect Foundation

Seattle, USA

Aug 2007 - Sep 2008

- **Recognition:** One of twenty students from Bangladesh to successfully complete the US Department of State funded YES Program. A humbling experience that prides itself in leadership, cultural values, and acceptance.

- **International School Cricket Premier League**

ISCPL

Lucknow, India

Jan 2011

- **Recognition:** Represented Bangladesh as a cricketer in the first ever International School Cricket Premier League organized by City Montessori School & Degree College and sponsored by the International Cricket Council (ICC).