

# Md Rayed Bin Wahed

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Software engineer with considerable experience in developing SaaS applications and machine learning. An ambitious yet pragmatic project manager with a proven track record of delivering compelling new products. Humble and cheerful, a firm believer in using technology for a more equitable, ethical, and greener tomorrow.

## WORK EXPERIENCE

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### • 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).

- **Role:** A key figure in promoting machine learning and its subsequent establishment. Responsible for spearheading new initiatives and team growth. Currently leading a team of 4 engineers.
- **Face Recognition:** Implemented a face recognition model to identify and track unauthorized individuals from a video feed. Designed to enforce HIPAA, the model has an accuracy of 99%.
- **Object Detection:** Implemented an object detection model to detect blunt and sharp objects. The system reduced injurious events caused by IDD individuals using stray objects to inflict harm to themselves and others by 90%.
- **Customer Retention:** Trained a classification model to predict the departure of potential customers. Developed a feature recommendation system to facilitate greater discovery of services. Increased retention rate by 20%.
- **Fall Detection:** Implemented a fall detection neural network using inertial sensor readings from smartwatches. Improved caregivers ability to reach affected individuals upto 80% faster.
- **Optical Character Recognition:** Leveraged Amazon Rekognition DetectText service to extract SpO2 and heart-rate measurements from images of pulse oximeters. Improved inaccurate data entry by 30%.
- **Sleep Analysis:** Used sensor readings from Withings sleep mats to implement comprehensive sleep profiles (sleep state diagrams, bed in/out statistics) of IDD individuals. Intended to help caregivers tailor their assistance.
- **Related Technologies:** Python, TensorFlow 2.0, Scikit-Learn, PyTorch, Numpy, Pandas, Matplotlib, Seaborn, Plotly, Docker.

### • 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. 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.
- **REST:** Proficient in implementing and consuming REST APIs. Experience working with serverless architectures and micro-services.
- **Other Technologies:** React, Flask, Docker.

## PROJECTS

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### • 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

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- **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

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- **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

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- **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).