Mohammad Sabik Irbaz
Lead Machine Learning Engineer, Pioneer Alpha Ltd.

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Education

Islamic University of Technology(IUT) **Dhaka, Bangladesh** **Jan,2017-Mar,2021**
B.Sc. in Computer Science and Engineering (CSE)
CGPA: 3.44 [3.90 in the final semester]
Dissertation: Medical Expertise Style Transfer using Denoising Autoencoder
Given an expert style text with no corresponding laymen style text given in the dataset, our challenge was to train the machine to transform the text into layman style robustly. We proposed a novel approach using denoising autoencoders which outperformed existing approaches.
=> **Supervisor:** Dr. Kamrul Hasan, Professor, Department of CSE, IUT

Notre Dame College(NDC) **Dhaka, Bangladesh** **Jul,2014-Dec,2016**
Higher Secondary Certificate (HSC), 2016
GPA: **5.00**/5.00

Cox's Bazar Government High School **Cox's Bazar, Bangladesh** **Jan,2009-Dec,2013**
Secondary Secondary Certificate (SSC), 2014
GPA: **5.00**/5.00

Industrial Experience

Pioneer Alpha Ltd., Dhaka, Bangladesh
Lead Machine Learning Engineer, Full-Time (January,2021 - Present)
Supervised the following core projects and delivered them successfully to the corresponding clients:
(1) Multilingual Chatbot as Business Assistant — *NLP, Tensorflow Rasa, Flask*
(2) Low-resource Bangla License Plate Detection and Recognition — *Vision, Tensorflow, OpenCV, Flask*
(3) Face Detection and Recognition for Remote Office — *Vision, OpenCV, dlib, Flask*
(4) Adobe Premiere Plugin for Automated Video Editing — *Vision, OpenCV, dlib, Adobe Premiere*

Omdena Inc., New York, USA
Lead Machine Learning Engineer, Part-Time, (April,2021 - June,2021),
Collaborated with 50 ML engineers from 20 countries on **Equilo Project** - Building Gender Equality Assessment Functionality using NLP. This large scale work was divided into 7 major tasks. I was the **task leader** of the team building the **recommender system** for the organizations with low gender equality scores. I also lead the team building the web app and deploying the whole data and ML pipeline to **GCP**.

Nascenia Ltd., Dhaka, Bangladesh,
Software Engineer, Intern (November,2019 - January,2020),
Worked on a large-scale web development government project on VAT automation, **Project Uddogi**

Teaching Experience

Amar iSchool, Dhaka, Bangladesh,
Course Instructor, Part-Time (March,2021 - Present)
Applied Data Science and Machine Learning [Course Link][Course Repository]

Research Experience

Systems and Software Lab (SSL), **Department of CSE, IUT** (July,2019 - Present)
Advisors: Dr. Kamrul Hasan, Dr. Hasan Mahmud
– Collaborated to collect sensor data from physically challenged patients to build automated wheelchairs.
– Extensively studied and worked on Text Style Transfer (particularly in Expertise Style Transfer) to help laymen in medical sector understand the experts.

Fordham Human Centered AI Research Lab

Department of CIS, Fordham University, NY, USA (March,2021 - Present)
Advisor: Dr. Md. Ruhul Amin
– Collaborating on a large-scale policy maker research project to analyze the public stance on government policies for COVID-19 across the world.
– Collaborating on a research project on detecting hate speech towards communities and recommending alternative options to reduce toxicity.

Publications

Updated list on **Google Scholar**

(1) **"Nurse Care Activity Recognition Based on Machine Learning Techniques Using Accelerometer Data"**, **Mohammad Sabik Irbaz**, Abir Azad, Tanjila Alam Sathi, Lutfun Nahar Lota
*Presented in **UbiComp/ISWC 2020*** [DOI] [Full-Text] [Presentation] [Code]

(2) **"Real-Time Face Recognition System for Remote Employee Tracking"**
Mohammad Sabik Irbaz, MD Abdullah Al Nasim, and Refat E Ferdous
*Presented in **International Conference on Big Data, IoT and Machine Learning, 2021*** [Pre-print]

(3) **"End-to-End Natural Language Understanding Pipeline for Bangla Conversational Agents"**
Fahim Shahriar Khan, Mueeze Al Mushabbir, **Mohammad Sabik Irbaz**, MD Abdullah Al Nasim
*Accepted in **IEEE International Conference on Machine Learning and Applications 2021*** [Pre-print]

(4) **"End-to-End Bangla License Plate Recognition Pipeline for Real-time Low Resource Video Based Applications"**
Alif Ashrafee, Akib Mohammed Khan, **Mohammad Sabik Irbaz**, MD Abdullah Al Nasim
Under Review [Pre-print]

Technical Skills

Programming Language: Python, C, C++, Ruby, Octave
Framework: Pytorch, fastai, Flask, Tensorflow, Keras, Ruby on Rails
Tools and Libraries: Git, LaTeX, Google Colab, Google Cloud Platform

Artificial Intelligence Projects

(1) **Medical Expertise Style Transfer System for Layman Patients —** *PyTorch, Fastai, Flask* [Code]
(2) **Multi-label Genre Classifier —** *PyTorch, Fastai, Numpy, Pandas* [Code]
(3) **Anime vs Animation vs CGI —** *PyTorch, Fastai, Flask* [Code]
(4) **Original Transformer for Bengali Translation —** *PyTorch, Flask* [Code]
(5) **Automated Routine Generation System —** *Minizinc* [Code]

Competitive Programming Experience

– Solved **2000+** programming problems in different online judges using C++, Python.
– Participated in **20+** onsite Inter University Programming Contests and **200+** online contests.
– Participated in **ACM ICPC Dhaka Regionals** 3 times.
– Attended BACS - BUBT **National Programming Camp** 2017.
– Achieved 1632 max rating **(Expert)** in **Codeforces** and 1844 max rating **(Violet)** in **Codechef**.
– **Contest Judge**, 16th December Programming Contest 2019
– **Former Programming Instructor**, IUT Programming Community

Awards & Achievements

– **Champion**, 2nd Nurse Care Activity Recognition Challenge 2020.
– **Finalist**, AI For Bangla Challenge [Team ID: **161**].
– **11th**, Multi-Agent Behavior Challenge 2021 [Team Name: **ChaosForces**]
– **Runners Up**, IUT Computer Programming Contest 2019
– **Runners Up**, INWED Tech Fest IUPC 2019
– **2nd Runners Up**, EDU Inter University Programming Contest 2020.
– **2nd Runners Up**, Britannia University Inter University Programming Contest 2020
– **Runners Up**, Chemistry Olympiad, Notre Dame Science Festival 2014
– **2nd Runners Up**, Project Showcasing, Regional Science Fair 2012
– **OIC Scholarship**, Full Free Scholarship for 3 years of undergraduate study at IUT.
– **SSC Scholarship**, Chittagong Education Board, Bangladesh.

Extra-curricular Activities

– **Associate Member**, Omdena Global Community
– **Former Vice President**, IUT Computer Society
– **Assistant General Secretary**, IUT 10th ICT Fest
– **Volunteer Coordinator**, IUT 9th ICT Fest
– **Class and Batch Representative**, IUT CSE'16
– **Former Group Representative**, Notre Dame Science Club
– **Former Associate**, Cox's Bazar Youth Development Society
– Travelled across major locations in Bangladesh to understand the variance in demographics.

References

Available upon request