

# Mohammad Sabik Irbaz

## Former Lead Machine Learning Engineer

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### Education

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**Islamic University of Technology(IUT)** Dhaka, Bangladesh  
B.Sc. in Computer Science and Engineering (CSE) Jan, 2017 - Mar, 2021  
CGPA: 3.44/4.00 [3.90 in the final semester]  
**Dissertation:** “Medical Expertise Text Style Transfer using Denoising Autoencoders”  
**Supervisor:** Dr. Kamrul Hasan, Professor, Department of CSE, IUT

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

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

### Industrial Experience

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**Pioneer Alpha Ltd.** Dhaka, Bangladesh  
**Lead Machine Learning Engineer** Jan, 2021 - Sep, 2021  
Supervised and delivered the following core projects 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** Apr, 2021 - Jun, 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** Nov, 2019 - Jan, 2020  
Worked on a large-scale government project on VAT automation, **Project Uddogi**

### Teaching Experience

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**Amar iSchool** Dhaka, Bangladesh  
**Head Course Instructor** Mar, 2021 - Present  
**Applied Data Science and Machine Learning** [[Course Link](#)][[Course Repository](#)]  
Our prime goal here is to empower the local Machine Learning and Data Science enthusiasts with a limited background knowledge of Computer Science and Mathematics.

## Research Experience

*The projects mentioned below are either ongoing research (+) in collaboration with other lab members or the manuscript is in preparation (\*) after project completion*

### Fordham Human Centered AI Research Lab

Mar, 2021 - Present

Department of CIS, Fordham University, NY, USA

**Advisors:** Dr. Md. Ruhul Amin, Dr. Ashique KhudaBukhsh (RIT, USA)

- COVID-19 Public Policy Stance Analysis (\*)
- Explainability of hate speech towards minority groups and how to reduce them (+)

### Systems and Software Lab (SSL)

Jul, 2019 - Present

Department of CSE, IUT, Dhaka, Bangladesh

**Advisors:** Dr. Kamrul Hasan, Prof. Hasan Mahmud

- Automated wheelchairs for semi-paralyzed patients. (\*)
- Data-centric approach towards Medical Expertise Text Style Transfer (\*)
- Automated Data Collection for Abstractive Bangla Text Summarization. (+)

## Publications

### (1) “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 ICMLA 2021 [PDF]*

### (2) “Real-Time Face Recognition System for Remote Employee Tracking”

**Mohammad Sabik Irbaz**, MD Abdullah Al Nasim, and Refat E Ferdous

*Presented in BIM 2021 [PDF]*

### (3) “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 HASCA 2020 [DOI] [PDF] [Presentation] [Code]*

### (4) “Real-time Bangla License Plate Recognition Pipeline for Low Resource Video-based Applications” Alif Ashrafee, Akib Mohammed Khan, **Mohammad Sabik Irbaz**, MD Abdullah Al Nasim

*Under Review [PDF]*

## 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

## Machine Learning 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]

## 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

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- **Champion**, 2nd Nurse Care Activity Recognition Challenge 2020.
- **Finalist**, AI For Bangla Challenge 2021 [Team ID: **161**].
- **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
- **OIC Scholarship**, 75% expense coverage for undergraduate studies at IUT. (2% acceptance rate)

## Extra-curricular Activities

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- **Associate Member**, Omdena Global Community
- **Member**, NLP Special Interest Group, Alan Turing Institute, UK
- **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
- Travelled across major locations in Bangladesh to understand the variance in demographics.

## References

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*Available upon request*