

# Ayan Antik Khan

Software Engineer & Researcher

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**Research Interests:** *Natural Language Processing, Bias & Fairness in Language Models, LLMs, Application of NLP in HCI*

## WORK EXPERIENCE

### IQVIA

Software Development Engineer

June 2023-present

## PUBLICATIONS

### An Empirical Study On The Characteristics Of Bias Upon Context Length Variation For Bangla

• Jayanta Sadhu\*, **Ayan Antik Khan\***, Abhik Bhattacharjee, Rifat Shahriyar

Keywords: Natural Language Processing, Bias & Fairness, Low-Resource

*Accepted for poster presentation at Findings of ACL 2024*

[Preprint](#) | [Proceedings](#)

\*Equal Contribution

## EDUCATION

### Bangladesh University of Engineering and Technology

B.Sc. in Computer Science and Engineering

2018-2023

CGPA: 3.85 (out of 4)

### Notre Dame College

Higher Secondary School Certificate

2015-2017

GPA: 5.00

### St. Joseph Higher Secondary School

Secondary School Certificate

2007-2015

GPA: 5.00

## PROJECTS

### Bangla Named-Entity-Recognition

Amazon SageMaker | Jupyter Notebook

January 2023

- Machine Learning & Deep Learning Models trained for the Bangla Complex Named Entity recognition task
- Developed during the NLP Hackathon organized by BdOSN in collaboration with AWS

### Grammatical Error Detection for Bangla

Google Colab | Jupyter Notebook

April 2023

- Creation of dataset containing grammatical error from famous Bangla newspapers
- Finetuning of Bangla Language Models (BanglaBERT, BanglaT5, BanglaNLG) to detect grammatical errors
- Developed as the term project for CSE 472 Machine Learning Sessional course

### Vetorized Convolutional Neural Network from Scratch

Google Colab | Kaggle Notebook

March 2023

- A Convolutional Neural Network model from Scratch without any external libraries
- The CNN was used to recognize Bengali Handwritten Digits from the NumtaDB Dataset.
- Developed as the final assignment for CSE 472 Machine Learning Sessional course

## Notabene [↗](#)

React.js | Django REST Framework | PostgreSQL

June '22 - September '22

- A browser based knowledge management tool
- Based on taking notes & easy highlighting of any article on the web.

## TCP Faster Recovery [↗](#)

ns-3

January '22 - February '22

- An ns3 based implementation of a TCP congestion control algorithm.

## QuizUp [↗](#)

Django | Bootstrap | Oracle

July '20 - December '20

- A website implementation of the popular QuizUp mobile app.

\*\*More on [Github](#)

## TECHNICAL SKILLS

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**Languages:** Python, C++, Java, Typescript, HTML, CSS, SQL

**Machine Learning:** PyTorch, Scikit-Learn, Tensorflow, wandb, pandas, numpy

**Libraries:** ReactJS, ns3

**Frameworks:** Django, Angular, Bootstrap

**DBMS:** PostgreSQL, Oracle

**Misc:** Git, Shell Script

## NOTABLE ACADEMIC COURSES

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Machine Learning, Artificial Intelligence, Simulation and Modelling, Bioinformatics, High Performance Database Systems, Operating Systems, Computer Security, Computer Networking, Computer Graphics, Compiler Design, Software Developement, Microprocessors and Microcontrollers, Information System Design, Object Oriented Programming

## POSITIONS OF RESPONSIBILITY

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**Organizer,** BUET CSE Festival

2022

**Executive Member,** Scintilla Science Club

2013-2015

## AWARDS & HONOURS

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- Receptient of **IQVIA Gold Impact Award** for contributions to the team
- Receptient of **RISE Research Grant Award** for undergraduate thesis.
- Receptient of **Dean's List** awards (6 out of 7 graded terms) & **University scholarships** for academic excellence.
- Receptient of **Scholarships** in secondary and higher secondary level.

## CERTIFICATIONS

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### Structured Machine Learning Projects [↗](#)

Coursera | Deeplearning.ai

Issued: August '20

### Deep Learning Specialization [↗](#)

Coursera | Deeplearning.ai

Issued: August '20

- Neural Networks and Deep Learning [↗](#)
- Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization [↗](#)
- Convolutional Neural Networks [↗](#)
- Sequence Models [↗](#)