Sujit Debnath

⌂ Erwin-Rommel-Str., 91058 Erlangen, Germany

🌐 sujitdebnath.github.io　　🔗 sujit-debnath　　 sujitdebnath
✉ sujit.debnath.bd@gmail.com　　🅢 sujit.deb.bd　　📞 +49 157 31158609

SUMMARY

An enthusiastic Computer Science graduate with proven experience in teaching, analysis, and volunteering who likes to take initiatives and seeks new challenges. I have a great interest in the advanced fields of Computer Science such as AI, Data Science, etc. My research interests mostly lie in integrating AI technologies into several other disciplines, including speech recognition, medical diagnosis, etc., to provide a more appropriate design and implementation for solving a variety of real-life problems.

EDUCATION

Friedrich-Alexander University Erlangen-Nuremberg　　　　　　　　　　**Erlangen, Germany**
Master of Science in Artificial Intelligence　　　　　　　　　　　　　　　　*2021 – Present*

North South University　　　　　　　　　　　　　　　　　　　　　　**Dhaka, Bangladesh**
BS in Computer Science and Engineering; CGPA: 3.66 out of 4.00 (89%-90%)　　　*2015 – 2018*
- Dissertation Topic: Kothamala - A Bangla Speech Recognition Engine

Dhaka College　　　　　　　　　　　　　　　　　　　　　　　　　　**Dhaka, Bangladesh**
Higher Secondary Certificate; Science Group; GPA: 5.00 out of 5.00　　　　　　　*2011 – 2013*

Rampura Ekramunnesa Boys' High School　　　　　　　　　　　　　　**Dhaka, Bangladesh**
Secondary School Certificate; Science Group; GPA: 5.00 out of 5.00　　　　　　　*2009 – 2011*

EXPERIENCE

Project Coordinator　　　　　　　　　　**Feb 2020 – Dec 2020, Apr 2021 – Jan 2022**
Robi Axiata Limited, Department of Analytics Center of Excellence　　　*Dhaka, Bangladesh*
- Worked on several projects, and some notable projects were technology up-gradation from 3G to 4G (U900 to L900, U21 to L21), L18 integration & LTE bandwidth expansion from 10 to 12 MHz, MIMO integration, and Antenna Optimization.
- Worked on *Microsoft Kaizala* Message Alert project which can catch a few specific degradations of network performance KPI and send a message alert including all the required degradation details to a Kaizala group.
- **Responsibilities:**
  - Analyze network performance KPI of 2G, 3G, and LTE for both Ericsson and Huawei vendors.
  - Develop and tune SQL queries, including SQL based DB reporting.
  - Analyze and performance reporting (e.g., Pre-Post analysis, identifying bad performing cells, worse cells tracking, etc.) of assigned projects.

Lab Officer　　　　　　　　　　　　　　　　　　　　　　　　**Jan 2019 – Dec 2019**
North South University, Department of Electrical & Computer Engineering　　*Dhaka, Bangladesh*
- **Conduct lab classes for the following courses:**
  - CSE115L (Programming Language I Lab) [Fundamentals of Programming Language Using C]
  - CSE215L (Programming Language II Lab) [OOP Using Java]
  - CSE225L (Data Structures and Algorithms Lab) [Using Java]
  - CSE311L (Database Systems Lab) [SQL]
- **Responsibilities:**
  - Designing course curriculum and conducting lab classes.
  - Arrange and evaluate assignments, exams, and projects.
  - Invigilate during exams and assist for grading.

Under-Graduate Assistant　　　　　　　　　　　　　　　　　　**Jan 2019 – Apr 2019**
North South University, Department of Electrical & Computer Engineering　　*Dhaka, Bangladesh*
- **Assist Faculty members for the following course:** CSE115 (Programming Language I), Instructors- *Dr. A. K. M. Ashikur Rahman* & *Dr. Muhammad Asif Hossain Khan*
- **Responsibilities:**
  - Conduct tutorial sessions for students needing extra help outside of class hours.
  - Grading of home-works, assignments and assist faculty members in their course-related work.

PUBLICATIONS

- Shakil Ahmed Sumon, Joydip Chowdhury, **Sujit Debnath**, Nabeel Mohammed, Sifat Momen, **"Bangla Short Speech Commands Recognition Using Convolutional Neural Networks"**, In *1st International Conference on Bangla Speech and Language Processing (ICBSLP)*, pp. 1-6, 2018.

- Nazmul Alam Diptu, Md. Asif Khan, **Sujit Debnath**, Abdullah Al Imam, Al Mahadi Hasan Rakib, Kazi Asfaq Ahmed Ador, Rashedur M. Rahman, **"Early Detection of Glaucoma Using Fuzzy Logic in Bangladesh Context"**, In *9th International Conference on Intelligent Systems (IS'18)*, pp. 87-93, 2018.

RESEARCH WORKS

- **Kothamala - A Bangla Speech Recognition Engine:** This research-based project was conducted in two divisions; one was Bengali Short Speech Commands Recognition, and the other one was Bengali Transcription. In the first division, a robust dataset had been collected with 50 classes, and three different Convolutional Neural Network (CNN) architectures had been proposed. In contrast, combined with a language model, another three different model architectures with Connectionist Temporal Classification (CTC) loss function had been experimented for building speech to text engine, where an open-source dataset was taken from *OpenSLR*, released by Google.

- **Early Risk Prediction of Stroke:** In this research-based project, several Machine Learning techniques such as Logistic Regression, Support Vector Classifier, etc along with Synthetic Minority Over-sampling Technique (SMOTE) had been used to predict the risk of stroke on 16 different features excluding the class.

SKILLS

- **Programming Languages:** Python (Frequently used), JAVA, C, C++, SQL

- **Machine Learning, Deep Learning and Visualization Libraries:**
  - Python based libraries: Numpy, Pandas, SciPy
  - Machine Learning library: Scikit-learn
  - Deep Learning library: Keras
  - Visualization: Matplotlib, Plotly, Seaborn

- **Database:** Relational database - Oracle, MySQL, and NoSQL database - MongoDB

- **Version Control System:** GitHub

- **Simulation Tools and Others:** Matlab, Logisim

- **Packages:** MS Word, MS PowerPoint, MS Excel, and LaTeX

- **Languages:** Bengali (Native), and English (Proficient)

EXTRACURRICULAR ACTIVITIES

NSU Problem Solvers (NSUPS)   **Dhaka, Bangladesh**
Member   *2015 – 2016*

- NSUPS is a problem-solving community based on North South University and this community's primary purpose is to help beginner students get involved in competitive programming. However, I got involved with this community and had the opportunity to participate in several programming competitions organized by NSUPS.

JAAGO Foundation   **Dhaka, Bangladesh**
Volunteer   *2014 – 2015*

- JAAGO Foundation works for the betterment of the nation through fulfilling the educational needs of under-privileged children. I attended several events organized by JAAGO, including World Environment Day.

Volunteer for Bangladesh (VBD)   **Dhaka, Bangladesh**
Community Volunteer   *2014 – 2015*

- VBD is a non-political volunteer and youth wing of the JAAGO Foundation, which provides the youth of Bangladesh a voice and platform to contribute to nation-building. However, I attended several events organized by VBD, and some notable events were Universal Children's Day and The Great Kindness Challenge.

SCHOLARSHIP & ACHIEVEMENTS

- **Honors in BS:** *magna cum laude*, Graduating class of 2019, 22nd Convocation of NSU.   *March 2019*
- **Financial Aid:** Achieved 25% tuition waiver from North South University.   *Summer 2015 – Fall 2018*