Md. Jumar **Alam**

LAB OFFICER · RESEARCHER

109/1, North Jatrabari, Dhaka, Bangladesh

☐ (+880) 1850-860-850 | ✉ jumar.alam@northsouth.edu | 🏠 jumaralam.github.io/ | JumarAlam | in jumaralam

Summary

Currently working as a Part-time Lab Officer at the Department of Electrical and Computer Engineering, North South University, Dhaka. Former Undergraduate Teaching Assistant at North South University and Intern at Pathao LTD. Super nerd who loves Linux and enjoys to do analytical works. Deeply into Study, Research and Teaching. Interested in devising a better problem-solving method for challenging tasks, and learning new technologies and tools if the need arises.

Education

North South University, Dhaka, Bangladesh   *Dhaka, Bangladesh*
BACHELOR OF SCIENCE IN COMPUTER SCIENCE AND ENGINEERING   *Jan. 2016 - Dec. 2019*
- CGPA: 3.82 out of 4.00 (With Summa Cum Laude Distinction Award.)

Academic Experience

Department of Electrical and Computer Engineering, North South University   *Dhaka, Bangladesh*
PART-TIME LAB OFFICER   *Jan. 2020 - Present*
- Teaching Database Management System (MySQL) lab Course to more than 200 students.
- Teaching Programming Language I (C Programming) lab Course to more than 80 students.
- Conducting exam, evaluating and assessing course related term projects.
- Counseling students during office hours.

Department of Electrical and Computer Engineering, North South University   *Dhaka, Bangladesh*
UNDERGRADUATE TEACHING ASSISTANT   *Jan. 2019 - Dec. 2019*
- Assisted faculty members with Data Structure and Algorithm, Computer Architecture and Organization and Digital Logic Design courses.
- Prepared course materials.
- Performed invigilation in exam halls.
- Counseled students during office hours.

Work Experience

Pathao LTD.   *Dhaka, Bangladesh*
RESEARCH INTERN   *Oct. 2019 - Jan. 2020*
- Forecasted expectations and analyzed customer demands with the Product department and the Food team.
- Detected anomalies, found shortest routes, and generated reports for the Map team.

Academic Research

Bengali Automatic Speech Recognition with RNN-Transducer
CSE499 - UNDERGRADUATE DISSERTATION   *Jan. 2019 - Aug. 2019*
- In this research, Recurrent Neural Network Transducer (RNN-Transducer) model was explored for Bengali speech recognition, which is first in this context. This research is still in motion for further accuracy.

Bengla Image Captioning with Attention and Pretrained Decoder
CSE468 - COMPUTER VISION RESEARCH PROJECT   *Jan. 2019 - Apr. 2019*
- A modified ResNet152 encoder followed by an attention mechanism and a decoder pretrained on OpenSLR data was used to work correctly on images that are both in Indian subcontinental and western contexts. This research is currently under review for publication in MDPI, Applied Science.

Forecasting The Price of Crude Oil, Gas, Gold and Different Currencies in USD.
CSE498R - CO-OP RESEARCH PROJECT   *May. 2019 - Aug. 2019*
- Various machine learning algorithms and popular time series forecasting methods were used to conduct the research and to maximize the accuracy.

Automatic English Text Summarization

CSE299 - Junior Design Research Project   *Sep. 2018 - Dec. 2018*

- A sequence-to-sequence automatic text summerizer was developed using Bidirectional LSTM with Residual Connection. This research is currently in motion for further accuracy.

Publications

- Hasan, M.; **Alam, M. J.**; Fuhad, K. M. F.; Khan, A. M. S.; Khan, S. I. A.; Tuba, J. F.; Mohammed, N.; Momen, S. and Rahman. F. "Chittron V2: Bangla Image Captioning with Attention and Pretrained Decoder", Applied Sciences (Under Review).

Awards & Achievements

2020	**Summa Cum Laude**,	For Academic Excellence in Undergraduate Level.
2019	**4th**,	Innovation challenge-8 competition (Capstone Project Showcase).
2019	**9th**,	EvalAI TrackingNet Object Tracking Challenge.
2019	**75% Scholarship on Tuition Fees**,	In Recognition of Excellent Academic Performances.
2018	**50% Scholarship on Tuition Fees**,	In Recognition of Excellent Academic Performances.
2017	**25% Scholarship on Tuition Fees**,	In Recognition of Excellent Academic Performances.

Key Skills

Programming	Python, C, C++, R, Java, LaTeX, Octave
Frameworks	Keras, Tensorflow, PyTorch, Pandas, Matplotlib, OpenCV, Scikit learn
Operating System	Linux, Windows
DevOps	Git, Slack
Back-end	Django, CodeIgniter, MySQL, Oracle
Front-end	HTML5, CSS3, Bootstrap
Languages	English, Bengali

Research Interest

- **Computer Vision**
- **Natural Language Processing (NLP)**
- **Machine Learning**

Notable Projects

Student Advisor System

CSE327: Software Engineering   *Sep. 2019*

- A University Expert System enabled by Inference Engine to recommend students their courses, retakes and class timings for next semesters. Also help them to view their full graduation path and calculate their CGPA.
- **Tools/Technology:** Django, Tornado, jQuery, and Keras.

Fibonacci Series Generator up to Nth Term

CSE331: Microprocessor Interfacing & Embedded System   *Sep. 2019*

- A Fibonacci Series generator using PIC16F877A Micocontroller up to nth term where n will be given by the user through a 3x4 keypad. This project was implemented using both hardware and software simulation
- **Tools/Technology:** Proteus, MicroC IDE, C Programming Language and Assembly Language.

12-bit Single Cycle RISC based Processor

CSE332: Computer Architechture & Organization   *May. 2018*

- This is the simulation of complete 12 bit single-cycle RISC based CPU including ISA, Assembler and Data-path. The processor is made of by our proposed Instruction set of architectures (ISA). An assembler is made to convert the assembly code to machine code. The assembler is made of by using C++.
- **Tools/Technology:** C++, Assembly Language and Logisim.

Food Canvas - An Online Food Ordering and Restaurant Reservation Web Application

CSE311: Database Management System   *January. 2018*

- This is a complete web service focusing to help the customers to order food online and reserve restaurant. CodeIgniter framework has been used to integrate front-end with the MySQL database.
- **Tools/Technology:** CodeIgniter, MySQL, Bootstrap, Java Script, HTML and CSS.

Key Courses

- Computer Vision
- Machine Learning
- Software Engineering
- Design and Analysis of Algorithms
- Data Mining
- Theory of Computation
- Data Structures and Algorithms
- Concepts of Programming Languages

References

Dr. Nabeel Mohammed
Assistant Professor
Department of ECE
North South University, Dhaka, Bangladesh
Email: nabeel.mohammed@northsouth.edu
Contact Number: +8801720505591

Dr. Md. Mahfuzur Rahman
Assistant Professor
Department of ECE
North South University, Dhaka, Bangladesh
Email: mahfuzur.rahman05@northsouth.edu
Contact Number: +8801847401045