NOAIMA BARI

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EDUCATION

- **Georgia Institute of Technology** *Atlanta, GA, USA*
  Master of Science (MS), Electrical & Computer Engineering: Signal Processing & Machine Learning Specialization *Aug 21 - May 23*
  Coursework: Machine learning, Computer Vision, Mathematical Foundations of Machine learning, Database Systems Concepts & Design, Advanced Programming Techniques, Medical Image Processing, Natural Language Processing, Technology Entrepreneurship

- **Jamia Millia Islamia University** *New Delhi, India*
  Bachelor of Technology, Electrical Engineering: ***GPA: 9.9/10 (Rank 1)*** *Aug 17 - May 21*

EXPERIENCE

ALTAIR ENGINEERING Inc. *Troy, MI*
Software Engineer Intern *Aug 22 – Dec 22*
- Developing a script to integrate JIRA and Perforce using C++, Python & TCL. (Ongoing)

REVEL SYSTEMS *Atlanta, GA*
Software Engineer Intern *May 22 – Jul 22*
- Built a menu engineering tool to help restaurants' in analyzing sales data and reducing back-office work resulting in **10% increase** in profits
- Utilized AWS Lambda as the backend engine coupled with a GraphQL API using AppSync to perform statistical analysis on data
- Created a dashboard depicting sales analysis on different charts using chart.js and a menu engineering matrix
- Used PostgreSQL queries and added filtering functionality on the basis of sales channel, category of item, date and time etc.
- **Tech Stack**: Backend: Golang & GraphQL, Frontend: React & Typescript, Database: Amazon RDS, AWS Services: Lambda, AppSync

CODING NINJAS *New Delhi, India*
Teaching Assistant Intern, Data Science & Machine Learning *Nov 20 - Mar 21*
- Conducted daily doubt sessions for undergraduate students in areas of machine learning, neural networks and data science
- Graded assignments, evaluated projects and debugged python codes of **over 200 students**

LASER SCIENCE AND TECHNOLOGY CENTER (DRDO) *New Delhi, India*
Control Systems Intern *Jan 20 – Feb 20*
- Worked on Control System Design for Dual Axis Gimbal Assembly using concepts of conventional control theory
- Designed a feedback control system for control of angular velocity and position of DC motors using MATLAB and Simulink

RELEVANT PROJECTS

- **[Image Processing & Computer Vision] Automatic Detection and Grading of Diabetic Retinopathy from Color Fundus** *Feb 22 – May 22*
  - Created a decision-making pipeline involving data augmentation, image processing, feature engineering and classification
  - Developed an ensemble model using CNN algorithms with an **average MCC of 74%**
  - Developed an explainable AI methodology using Grad-CAM for better interpretability of predictions for further clinical review
- **[Natural Language Processing] Idiomaticity Detection using Zero-Shot and One-Shot Learning** *Feb 22 – May 22*
  - Performed feature engineering using bag of words, TF-IDF and sentence embeddings (USE and Sentence Transformers)
  - Tested the performance of pretrained supervised deep learning methods such as biLSTM, RoBERTa, XLNet, T5 and GPT-J
  - Achieved an **accuracy 78%** and precision 73% using XLNet and recall 75% using biLSTM.
- **[Database Systems] Airline Booking Management System** *Aug 21 – Dec -21*
  - Created a web app using Flask and a MySQL database to enable customers to book flight tickets and perform other search operations
  - Performed Conceptual modelling using EER Diagram and Logical Mapping from conceptual to a Relational Data Model
  - Implemented queries for searching with filters, booking, retrieving, cancelling flights and generating reports

TECHNICAL SKILLS

Languages: C++, Python, Go, SQL, JavaScript, HTML, CSS, MATLAB
Technologies/Frameworks: Flask, PyTorch, AWS Lambda, AppSync, GraphQL, Simulink, Version Control (Git), Agile Project Methodologies

PUBLICATIONS

- **Interpretable Evaluation of Diabetic Retinopathy Grade Regarding Eye Color Fundus Images** *June 22*
  - Submitted at IEEE International Conference on Biomedical and Health Informatics (IEEE BHI '22)
- **Language Lexicons for Hindi-English Multilingual Text-Processing**
  - IAES International Journal of Artificial Intelligence (IJ-AI) Vol. 8 pp. 31-38 *Dec 21*
- **Priority Based Power Delivery System for Electric Vehicle Charging** *Dec 20*
  - Artificial Intelligence Systems and the Internet of Things in the Digital Era proceedings by Springer Verlag

ACHIEVMENTS

- Gold Medal – B. Tech Electrical Engineering, JMI (Batch of 2021) *July 21*

- Outstanding Women in Engineering Award, IEEE Delhi Section *Nov 20*
- National Finalist - Smart India Hackathon (2020) (Software Edition) *Aug 20*