Md Omer Danish

Email | **Linkedin** | **Website**

William N. Pennington Engineering Building, Reno, Nevada

Research Interests

Security, Privacy, Computer Networks, IoT, AI

Education

University of Nevada, Reno Aug' 24 - Present
Ph.D. in Computer Science and Engineering

Bangladesh University of Engineering and Technology Mar'16 - Feb '21
Bachelors in Computer Science and Engineering

Experience

Graduate Research Assistant Aug '24 - Present
IoTSec Lab: University of Nevada, Reno *Reno, USA*

- **Alert Wildfire:**
  Working on the Alert Wildfire project, which focuses on detecting wildfires using camera-based surveillance systems. The project aims to enhance real-time detection and response by applying machine learning (ML) and edge computing solutions to efficiently process and analyze wildfire events.

Big Data Security Engineer Mar '21 - Jul '22
Techtrioz *Dhaka, Bangladesh*

- **CyberShield:** | *Pyspark, MLlib*
  A big data system that consumes billions of network data every day and provides a meaningful dashboard for the network administrator. It detects any anomaly or intrusion in network traffic using Machine learning.
- **Data Segregation :** | *.Net, C#*
  Implemented a system using the .Net framework that processes pdf reports and generates the desired report.
- **TruckShare Plus: Cost-Effective Logistics:**
  Collaborative utilization of resources and expenses by trucks and lorries. I have implemented an Android application to achieve a 25% reduction in transportation costs.

Research Work

Machine Learning-Based Human Activity Recognition Jan '23 - Ongoing
Opportunity dataset

- Implemented different ml models to anticipate human activity by correlating sensor inputs with 85.6% accuracy.

Telecom Customer Churn Rate Prediction with ML Jun '21 - Dec '21
Techtrioz

- Implemented a model that can predict whether a customer will churn or not based on various attributes like age, gender, demography, payment method, monthly charge, contract duration, etc. with 91.6% accuracy.

Internet Availability, Adoption, and Prediction of Future Demand in Bangladesh Mar '18 - Jun '19
The Bangladesh National ICT Household Survey

- The nationwide survey conducted by the Government of Bangladesh finds only 16.6% are highly aware of online security, 6.1% have no awareness, and 53% overall lack knowledge, with 60% of the uninformed women.

Design of a Decimal to IEEE-754 Converter using Verilog Oct '18 - Dec '20
Undergraduate Research with Professor Dr. Md. Mostofa Akbar

- A specialized integrated circuit design to convert floating-point decimal numbers into single-precision IEEE-754 binary numbers using Verilog while adhering to RTL rules and standards.

Certificates

Neural Networks and Deep Learning | *Coursera*

Structuring Machine Learning Projects | *Coursera*

Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization | *Coursera*

Projects

DoS attack with ARP Cache Poisoning
Python, Scapy

- Implemented the attack by manipulating the targeted machine's ARP table such that the MAC addresses of the attacker machine and router are identical. Following that, DoS attack is carried out by dropping every packet transmitted by the targeted machine.

IoT Enabled Intelligent Cooling System: Real-time Temperature Monitoring & Mobile Alerts
ATmega32, ESP8266 Wifi Module, LM35 Sensor, C++, SIM900 Module

- Developed a smart fan system that can sense surrounding temperature and switch on when the temperature crosses 30 degree Celsius.
- LM 35 Temperature sensor was used to ingest temperature data.
- Data uploaded on "Thing speak server" using ESP8266 wifi module.
- Mobile message sent through SIM900 GSM module.

M/M/K queue simulation software
Python, Tkinter, Matplotlib

- Developed a python-based project which can simulate different types of M/M/K queues. Simulation parameters can be given from the input field and the result will be shown in graph form as well as value form.

Anemia Detector
Android Studio, Java, OpenCV

- Developed an Android application to detect anemia from the eye image
- Used Opencv library to analyze eye images.

Technical Skills

Languages: C/C++, Python, Java, SQL, Verilog, Assembly 8086, CSS
Libraries: Pyspark, NumPy, Pandas, Matplotlib, Seaborn, Tkinter, OpenCV
Database: MySql, Cassandra, Oracle
Scripting: LaTeX, HTML, CSS, Javascript, bash, shell
IDE: IntelliJ IDEA, NetBeans, Eclipse, Visual Studio, VS Code, Code Blocks, AVR studio, EMU 8086, PyCharm, Navicat
Tools: Wireshark, Cisco Packet Tracer, SEED Ubuntu, Git, Docker, Jira, Bitbucket

Standardized Test Scores

GRE : 312 (Q-164, V-148, AWA-3)
TOEFL : 100 (L-28, R-25, S-23, W-24)

Awards and Achievements

General Scholarship from Bangladesh Government (2016-2021)
Talentpool Scholarship from Bangladesh Government (2014-2015)

Reference

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