

# Omar Elgeoushy

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## EDUCATION

### Master of Science (MS) in Electrical and Computer Engineering

August 2023 - May 2025

Purdue University, Indianapolis, IN

Advisor: Dr. Sohel Anwar

### Bachelor of Science (BS) in Computer Science

Graduated December 2022

Virginia Tech, Blacksburg, VA

GPA: 3.48/4.00 | Mathematics Minor | Dean's Honor List: Spring 2021, Fall 2021 and Spring 2022

## SKILLS

**Programming Skills:** Java, Python, C, C++, C#, Ruby, React, JavaScript, Angular, MATLAB, CSS, Spring, SQL, PyTorch, .NET, Swift

**Networking Skills:** Broadband Network, TCP/IP, PON, SDN, VPN, VLANs, SNMP

**Other Skill:** Github, Jira, GDB, Valgrind, Linux, Unix, AWS, Data-structure, Scrum, AutoGPT, Agile, Waterfall, AI, Docker

**Language Skills:** Fluent in English, German, and Arabic

## WORK EXPERIENCE

### Software Engineering Research Assistant at Purdue, Indianapolis, IN

August 2023 – Present

Autonomous Off-Road Ground Vehicle Simulator:

- Developing a Python-based AI model by utilizing a dataset of over 2500 images with TensorFlow and DeepLab to facilitate object detection and semantic segmentation within the autonomy stack, a pivotal element for self-driving cars
- Integrating the model seamlessly into the Multibody Dynamics & Terramechanics (IVRESS) system, thereby advancing autonomous vehicle technology
- Utilizing Unreal Engine 5 to visualize testing, enhancing the practical application of the technology

### Software Engineer Intern at Si-Ware Systems, Menlo Park, CA

June 2023 – September 2023

- Designed and developed a Python-based chatbot using AutoGPT API
- Developed automated assistance and enhanced communication to deliver a seamless user experience on the front-end with React integration based on custom data fed to the model
- Utilized Pinecone to implement a vector database, improving search and retrieval processes for the chatbot

### Software Engineer Intern at 5APlus NetArch, Cheyenne, WY

June – August 2021 and 2022

Network Monitoring Dashboard:

June 2022 – August 2022

- Created a Python-based network monitoring dashboard using SNMP and TCP/IP to analyze data from network devices
- Implemented Angular and CSS for a user-friendly network performance monitoring interface
- Stored network data in a MySQL database for easy retrieval and analysis

Finance App:

June 2021 – August 2021

- Contributed to the development of the Finance app, enabling payment processing using cryptocurrency for users
- Collaborated with the development team to implement and test features for the app
- Focused on backend development using Springboot and utilized SQL to manage and manipulate the database

### Undergrad Teacher Assistant (UTA) | Computer Science Department at Virginia Tech

August 2022 – December 2022

- Assisted 300+ students in achieving success in CS course and providing tutoring to students who needed extra support

## PROJECTS

### Case Study Library:

- Designed and developed a website hosted on AWS to serve as a resource for CS students at Virginia Tech, utilizing various AWS tools including Amplify, S3, AppSync, OpenSearch, and DynamoDB
- Implemented an upload page that allows students to upload their own presentations to the website
- Senior project website featuring over 850 presentations for viewing, accessible at <https://casestudies.cs.vt.edu/>