Dheer Guda

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EDUCATION

University Of Maryland College Park — **College Park, Maryland**
B.S. in Computer Science — *Expected Graduation, May 2025*

- **Honors:** *Dean's List, QUEST Honors Program*
- **Related Coursework:** Data Structures & Algorithms, Objects & Design, Computer Organization & Programming, Combinatorics, Machine Learning, Artificial Intelligence, Object-Oriented Programming, Statistics & Applications

EXPERIENCE

SAR Synthetic Dataset Research Intern - Professor Triet Le — **College Park, Maryland**
Software Development Engineering Research Assistant — *December 2024 – Present*

- Using MATLAB, Python, and C, I generate high-fidelity synthetic datasets for SAR imaging, facilitating AI model training without real-world data constraints to better simulate the Earth and create images for better data processing.
- My focus lies in integrating AI with SAR processing to enhance image clarity and detail through machine learning models. Creating this Synthetic data is then utilized by MATLAB to generate reflectivity and convert to an image.
- My expertise in C programming optimizes SAR algorithms for high-speed processing, enabling real-time or near-real-time applications. Due to the speed of C, Python programming is wrapped in C to increase speed.

NEMO Research Intern - Professor Peter Teuben — **College Park, Maryland**
Software Development Engineering Research Assistant — *January 2024 – Present*

- Spearheaded the development of Nemo.PY using Python, significantly boosting system capabilities beyond its original C and C++ base. Modern frameworks allow for better utilization of bash in python, giving enhanced productivity.
- Enhanced algorithms and software for improved file parsing, data handling, and visualization, leveraging UNIX shell and Ubuntu-WSL.
- Employed git for superior code management and collaborative efficiency on intricate software projects with the research team.

PROJECTS

Audit.AI — **College Park, Maryland**
Lead Developer — *April 2024 – Present*

- Created a Machine Learning Algorithm from scratch utilizing YOLOv8 framework from Ultralytics as the foundation for our image analysis model, leveraging its industry-leading capabilities in single-classification tasks trained on a kaggle Dataset. This Algorithm was able to successfully determine whether or not an image is real or fake, and its confidence.
- Developing the application primarily in Python, we utilized Google Colab's L4 Hardware Accelerators for training, optimizing resource usage within the constraints of a hackathon environment and time limitations.
- Created a Chrome extension for image auditing, integrating with various image sites including pinterest.com, enhancing accessibility and usability.
- Bitcamp 2024 Hackathon Winner

askTestudo — **Georgetown, Maryland**
Lead Backend Developer — *January 2024 – Present*

- Pioneered an LLM chatbot leveraging Microsoft Azure OpenAI and Retrieval-Augmented Generator (RAG), enhancing query accuracy and data retrieval across UMD web platforms.
- Utilized Python for chatbot programming and enrichment, JavaScript, CSS, and HTML for a university-themed website with social media links and a campus map, improving navigation and user engagement with an animated GIF interface.
- Delivered an integrated chatbot solution and website, advancing educational technology innovation.

ACTIVITIES AND CLUBS

University Career Center Tech Team — **College Park, Maryland**

- *In charge of the behind the scenes of events, making sure others have the proper technology to create a powerful tool for students at UMD.* — *September 2023 – Present*

Robotics Programming Head (FTC) — **Somerset, New Jersey**
Lead Programmer — *September 2011 - May 2023*

- Led the development and execution of robotics software for 12 years, specializing in Java and the FIRST API for FTC, translating innovative ideas into practical solutions. Mastered Java and AI integration, utilizing Google's TensorFlow for task-specific enhancements and Python for data analysis and sensor data interpretation and database usage.

SKILLS

Programming: Java, Python, JavaScript, HTML/CSS, SQL, Node.js, React.js, C++, C, React Native, R,
Tools: Android Studio, IntelliJ, Colab, Eclipse, Microsoft Azure, Jupyter Notebooks, Git, Bootstrap, Linux, Unity, Ubuntu