UNYIMEABASI C. USUA

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EDUCATION

Massachusetts Institute of Technology, Cambridge, MA May 2027
Bachelor of Science, Electrical Engineering and Computer Science, GPA: 4.4/5.0
Minor in Japanese
Relevant Coursework: Data Science, Machine Learning, Fundamentals of Programing, Deep Learning, Linear Algebra

SKILLS

Programing Languages: Python, Julia, Java, C++, MATLAB, Simulink, HTML, CSS, Javascript, Arduino,
Frameworks/Technologies: SQL, Colab, Microsoft Azure Cloud Services, Microsoft Office, APIs, Visual Studio, Tensorflow, Pytorch, SciKit Learn, OpenCV, Git, Conda, Pandas, Numpy, Databases, AI/ML, Linux

EXPERIENCE

Chevron, Houston, TX ***June 2024 - August 2024***
Software Engineering Intern

- Built a CI/CD workflow for deploying ML systems. Developed and managed data distributed Convolutional Neural Network training and inference tasks across multiple GPUs with Julia/Python utilizing Azure Cloud ML
- Significantly reduced training costs/time (20x), delivered a new Machine Learning AVA inversion tool in a cloud-native platform. Database queries (SQL), High Performance Computing.
- Created frontend web application to seamlessly train, and visualize model predictions using Python/HTML/CSS/Jupyter
- Python, Julia, Services, Clients, MLOPS, VM Nodes, Docker, Azure Cloud, Tensorflow, Linux, Storage

MIT Sea Grant, Cambridge, MA ***January 2024 - May 2024***
Undergraduate Researcher

- Implemented and trained an instance segmentation based model (Mask-RCNN) using transfer learning, integrated with a Support Vector Machine to detect and assess the mortality of shellfish larvae.
- Utilized Google Cloud/Collab, OpenCV, Tensorflow, Scikit-learn.
- Achieved a high classification accuracy of 0.93 and detection precision of 0.83.

Perceptify, Remote ***July 2023 - September 2023***
Backend/AI Engineer

- Developed advanced sentiment/relevance time forecasting model that provided qualitative insights with NLP.
- Analyze customer-based data using LLMs. Implemented qualitative AI based insights into the MVP. Communicate and test models. Utilized Open AI API.

PROJECTS

Python Library for XML-based Image Augmentation for Computer Vision - June 2024

- Developed and published a python library to apply diverse augmentations to images with Pascal VOC XML annotations using OpenCV and ElementTree. Enhanced dataset preparation for segmentation based computer vision tasks. (Python, OpenCV, Numpy, Pandas, Git, Pypi, Containers,XML)

LEADERSHIP & COMMUNITY INVOLVEMENT

MIT Wind, Cambridge, MA September 2024 - Present
Student Lead

- Developing the electrical system of a model Wind Turbine to compete in the Collegiate Wind Competition.
- Simulink/Matlab, Arduino, generators and controls systems. Manage team's codebase.

MIT National Society of Black Engineers (NSBE), Cambridge, MA January 2024 - Present
Member

- Involved in MIT's community of Black Engineers. Participating in community events, collaborating with fellow black engineers.

HONORS AND AWARDS

- 2024 1 of 4 Undergraduates Selected to represent MIT EECS at the 2024 Grace Hopper Tech Conference
- 2024 Dean A. Horn Award for Undergraduate Research ($1000)
- 2024 MIT Biotech Group Poster Session (Best Class of 2027 Poster)