# VISHO **MALLA OLI**

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## Experience Summary

Honors Junior at the University of Mississippi, specializing in data science with 3+ years of experience in Python and Java. Built AI models with 85% accuracy in NLP tasks and processed 1,000+ data points using computer vision and machine learning tools. Proficient in Python, TensorFlow, OpenCV, and experienced in analyzing large datasets for AI-driven solutions. Strong background in developing scalable applications and leading data-focused projects.

## Education

**Bachelor of Science**: **Computer Science** **Expected in 05/2026**
University of Mississippi University, MS

- Emphasis: Data Science | Minors: Mathematics | 2022/23 - Chancellor's Honor Roll | 3.75 GPA | Junior
- Master of Ceremony NEPSA - 2022/23, Coding Club - 2023 | International Merit Scholarship Recipient | Valedictorian Scholarship Recipient
- Relevant Coursework: Adv. Data Science (CS 443), Linear Algebra (MA 319), Trustworthy ML (CS 492), Statistics (MA 315), & Data Structures (CS 211).

## Skills

- **Languages/Tools:** Python, R, Java, MySQL, Git/GitHub, LaTeX, Tableau, PowerBI, OpenCV
- **Libraries/Frameworks:** TensorFlow, Keras, Pandas, NumPy, Matplotlib, Seaborn, Scikit-Learn, Transformers, SciPy, OpenAI API
- **Stats & Experimentation:** Image Analysis, Computer Vision, Machine Learning, Data Visualization (Tableau, PowerBI), Exploratory Data Analysis, Hypothesis Testing, Adversarial Training, A/B Testing

## Experience

**Teaching Assistant** **08/2024 to Current**
**Department of Computer Science**

- Facilitated Python (CSCI 256) and Java (CSCI 211) labs, focusing on debugging, algorithm optimization, and data structures. Assessed assignments based on code quality, efficiency, and academic standards.
- Provided individualized support during office hours and virtual sessions, guiding students on algorithm design, coding practices, and exam preparation while ensuring academic integrity through exam proctoring.

**Summer Camp Coding Intern** **05/2024 to Current**
**Delta Health Alliance** **Stoneville, MS**

- Guided students through CodeHS Python and Code.org AI/ML materials in Coding Camp 2.0, creating engaging and interactive projects to enhance learning.

**Private Tutor/Mentor** **08/2023 to Current**
**FedEx Student-Athlete Success Center** **University, MS**

- Provide academic support to student-athletes in CSCI 2XX and Math 2XX courses through one-on-one and group tutoring sessions.

**Software Engineering Fellow** **07/2024 to 09/2024**
**Headstarter AI**

- Developed an AI Flashcards SaaS platform using Next.js, Firebase, OpenAI, and Stripe, integrating user analytics and Stripe for payments. Aimed to acquire 1,000+ users.
- Created an AI-powered customer support chatbot leveraging OpenAI API and Pinecone, with features like RAG and multi-language support.
- Built a pantry management app using Next.js, Firebase, and Vercel, implementing CI/CD pipelines and recipe suggestions via the OpenAI API.
- Designed a personal website to showcase projects and professional achievements.

## Activities and Honors

**AWS DeepRacer Student**
Participated on AWS DeepRacer Student Program, studying ML/RL, and racing car model development with PPO policy, with zig-zag prevention model, and custom rewards, completing the BreadCentric Speedway track in 3.5 minutes in July, 2023.

**uArch 2024 Full Grant Recipient**
Awarded a full grant for international travel and participation in the uArch workshop and ISCA conference in Buenos Aries, Argnetina (June 2024), in recognition for academic achievements and potential to contribute in the field of computer architecture and engineering.

**Robotics Competition Judge, Oxford High School**
At VEX Robotics Tournament 2024, conducted in-depth interviews focusing on technical skill, innovation, and teamwork, applying rigorous criteria to fairly determine the winners across various award categories.

## Projects

**Binary Image Growing Algorithm**
Engineered a Java application to exclusively segment black or white (0 or 255 pixel intensity) binary PGM images, leveraging an 8-connected neighborhood algorithm, to count the size of the image with unparallel precision.

**COVID 19 Data Analysis using Python**
Analyzed and preprocessed John Hopkins University's COVID-19 data using pandas, measured the COVID-19 spread's relationship with happiness levels in various countries, and visualized the results using Seaborn.

**LeatherMagNLP - Fake News Detection in the Leather Industry, Team Leader, HackBeta 2024**

- **Directed a team in developing an NLP-based tool** to analyze leather industry news using Python, Pandas, NumPy, and SpaCy, focusing on extracting organizational entities and insights. Enhanced text analysis capabilities were achieved through the implementation of advanced NLP techniques with Transformers and TextBlob for detailed polarity and subjectivity analysis.
- **Employed K-Means clustering and visual analytics** to categorize news articles as fake, real, or indecisive based on their polarity and subjectivity scores, improving the ability to assess media reliability and accuracy. Utilized the Elbow method and silhouette analysis to determine and validate the optimal number of clusters, effectively demonstrating the method's effectiveness and aiding in comprehensive data presentation.

**Adversarial Text Detection System**

- **Engineered an adversarial text detection system, as a group effort, using Python**, leveraging tools like NumPy for data manipulation, scikit-learn for evaluating model metrics, and Hugging Face's transformers for NLP model deployment, initially achieving 20% accuracy that underscored the need for enhancements.
- **Enhanced model precision under adversarial conditions**, boosting detection accuracy for authentic text from 0% to 43% and for machine-generated texts from 33% to 67%; overall accuracy improved from 20% to 50% through targeted adversarial training and iterative model adjustments.

## Websites, Portfolio, Profiles

**Github:** www.github.come/vishomallaoli
**LinkedIn:** www.linkedin.com/in/vishomallaoli/