RUPAK RAUT

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Education

The University of Southern Mississippi   Hattiesburg, MS
Major: *Computer Science*   Expected Graduation: Dec 2025
Minor: *Mathematics and Economics Data Analytics*   *GPA: 4.0*

Work Experience

University of Southern Mississippi   Hattiesburg, MS
Mathematics Learning Assistant   August 2023- Present
- Assist students in learning the concepts of their respective mathematics course.
- Assist professors in grading student's assignments.
- Maintain an interactive class environment among 150 students.

University of Southern Mississippi   Hattiesburg, MS
Mathematics Tutor   September 2023- Present
- Assist students in resolving their confusions outside of the class.

Research Experience

University of Southern Mississippi   Hattiesburg, MS
Research Assistant
Project: Guarding the IoD: Strategies for Secure and Private Drone Networks   September 2023 – Present
- Utilized machine learning techniques to develop predictive algorithms that proactively identify and respond to potential security breaches in real-time, bolstering the IoD network's resilience.
- Employed state-of-the-art cryptographic protocols to safeguard data transmission and storage within drone networks, ensuring confidentiality and integrity.

Projects

Real Time Object Detection   January 2023 – March 2023
- Created a real time object detection machine learning model using OpenCV, Ultralytics YOLOv8 model and NumPy.
- Utilized 'yolovm8.pt' deep learning techniques to divide an image into grids and predict the bounding boxes and class probabilities of objects.
- Employed OpenCV in rendering bounding boxes and labels real time and NumPy handled the extracted data.

Newspaper App   August 2022 – November 2022
- Used Django, Bootstrap, and jQuery to model a newspaper website.
- Features involve creating, editing, and deleting a number of users and articles.

Tic Tac Toe GUI   June 2022 - July 2022
- Built a tic tac toe game featuring a GUI using python's tkinter library.
- Inherited foreign 'tk.Tk' class into program class to model the GUI.

Honors & Awards

- Academic Excellence Scholarship – Merit based scholarship that covers full-tuition.

Skills & Interest

- Python
- C++
- JavaScript
- Scrapy
- PyMongo
- MongoDB
- NumPy
- React
- openCV
- mySQL
- Bootstrap
- jQuery