

# JAHNAVI PRIYA BOMMAREDDY

Athens, Georgia

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## Education

### The University of Georgia

Master of Science in Computer Science, (CGPA:3.88/4)

August. 2023 – May 2025

Athens, Georgia

### National Institute of Technology Patna

Bachelor of Technology in Electronics and Communication Engineering, (CGPA: 8.83/10)

August. 2019 – May 2023

Bihar, India

## Skills

**Programming Languages:** Python, Java, C, C++

**Database Management Systems and Tools:** SQL, MySQL, DBMS, Tableau, VSCode, Git, Anaconda

**Web Development:** Angular, JavaScript, HTML, CSS, Django

**Other Skills:** Data Analysis, Data Structures and Algorithms, Microsoft Office , Statistical Techniques, Machine Learning, Artificial Intelligence, Deep Learning, LLM, Red Teaming, Software Engineering, Agile Methodologies, Software Development Life Cycle, AWS (lambda,Glue,ETL,S3,RDS) Docker, Kubernetes,CI/CD pipelines, Spring Boot, Object-Oriented Design,NLP,ETL, Apache Spark.

## Experience

### UGA CAES-Agriculture, Leadership, Edu & Communication

March 2024 – May 2024

Student Research Assistant

Athens, Georgia

- Conducted data processing and statistical analyses under Dr. Peng Lu's guidance.
- Applied machine learning techniques, enhancing sentiment analysis and topic modeling accuracy by 80% on large datasets.
- Assisted in preparing results for manuscripts and collaborating on research publications.

### Test AIng Solutions Pvt.Ltd.(AiEnsured.com)

January 2023 – April 2023

Machine Learning Intern

Bengaluru, Karnataka

- Enhanced image pipeline activities, improving model explainability by 20% using advanced techniques..
- Collaborated on live video feed monitoring using an object detection model, reducing false detections by 15% and increasing overall detection accuracy by 70%, contributing to improved academic integrity.
- Increased object detection model robustness, resulting in a 40% improvement in detection accuracy.

### Indian Institute of Technology Patna

June 2022 – July 2022

Research Intern (Remote)

Patna, Bihar

- Analyzed disaster tweets with unsupervised methods, achieving a 10% increase in information extraction accuracy using VEC.

## Projects

### Red-Teaming Attacks on LLM Agents (Cactus and PaperQA) | LLM Agents, Red Teaming, Vulnerability Analysis

- Designed and executed prompt injection attacks on LLM agents (Cactus and PaperQA), achieving a 50% attack success rate on Cactus and 40% success rate on PaperQA by bypassing tool restrictions and manipulating workflows.
- Conducted agent profiling by crafting adversarial prompts, analyzing behaviors, and refining attacks using JailJudge and custom datasets.
- Achieved 91.3% evaluation grade through systematic vulnerability assessment and analysis of agent weaknesses.

### Cinema E-Booking System | Angular, MySQL, Spring Boot

- Collaborated in a Agile environment to develop a web-based platform for booking movie tickets, featuring a user-friendly interface and admin panel for site management, reducing average response time by 20%.
- Designed and integrated a MySQL database, enhancing query response efficiency by 15%.
- Implemented backend functionalities using Spring Boot and enhanced user experience through Angular.

### Brain Tumor Classification using Machine Learning | Python, Keras, Tensorflow

- Devised a Convolutional Neural Network (CNN) model for image classification, detection, and segmentation.
- Leveraged TensorFlow's powerful Image Data Generator to augment and enrich the data set, enhancing model robustness by 15%.
- Achieved an impressive accuracy rate after meticulously crafting and optimizing the model with the Adam optimizer, reducing training time by 35%.

## Publications

Published research article in Optics through Elsevier. The paper is titled 'Implementing the circularly polarized THz antenna with tunable filtering characteristics.'