

# VARUN PRASAD MUCHANAPALLY

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## EDUCATION

**Master of Science in Computer Science**, GPA: 3.8/4.0- June 2026  
University of Central Florida- Orlando, Florida

**Bachelor of Technology in Computer Science**, GPA: 8.05/10.0- May 2024  
BV Raju Institute of Technology- Telangana, India

## TECHNICAL SKILLS

- **Interests and Domain:** Full stack development, Data Analysis, Machine Learning, NLP, Deep Learning.
- **Languages and Frameworks:** Python, C++, HTML, SQL, CSS, JSON, Flask, Git, Javascript, Node.js, Express.js.
- **Databases and QL:** MySQL, MongoDB.
- **Libraries:** Scikit, Numpy, Pandas, Matplotlib, Spacy, Pytorch, XGboost.
- **Tools and Infrastructure:** AWS, Postman, Tableau, Docker, REST API.

## WORK EXPERIENCE

One Convergence| San Jose, California

**Software Engineer Intern** April 2023 - October 2023

- **Machine Learning:** Integrated the **Weaviate vector database** to survey **Retrieval-Augmented Generation (RAG)** potential for **Large Language Models (LLMs)**, enabling advanced search and data retrieval capabilities to 75%.
- **Automation:** Wrote a Live/Dead Link Checker script, automated link validation processes, streamlining workflow for 7 developers, ensuring website reliability, and eliminating significant manual effort.
- **Full Stack:** Improved the Contributions Section, Executed Creator Tag functionality, and introduced an Edit Listing feature to streamline product updates with 86% efficiency.
- **System Optimization:** Adjusted Authors' Attributes for over 10,000 authors and mitigated race conditions in screenshot generation, improving system stability and user experience.
- **Achievements:** Promoted to Team Lead for a group of 5 interns for delivering impactful results and demonstrating leadership qualities.

Forage Ai| Eatontown, New Jersey

**Python Developer Intern** May 2022 - October 2022

- **Web Scraping:** Constructed a web scraper for recursive URL extraction, achieving a 95% accuracy rate and enhancing data collection efficiency by 40%.
- **Collaboration:** Collaborated with Manual/Research teams to study and resolve over 20 technical issues, ensuring smooth project operations.
- **Monitoring:** Maintained and examined over 1,00,000 URL Checker outputs, identifying and resolving errors for accurate observations.
- **Tech Proficiency:** Gained expertise in Python development and key tech stack tools to optimize operational processes.

## ACADEMIC PROJECTS

SafeURL: URL Safety Checker | Python, Flask

- Devised a comprehensive tool for evaluating URL safety by integrating HTTPS verification, SSL/TLS certificate validation, geolocation analysis, and reputation scoring using Safe Browsing API. Simplified complex cybersecurity analyses into actionable insights for both technical and non-technical users.

ProfessorVRX | Python, Gemini, Flask

- Developed "Professor VRX," an interactive Flask-based web app supporting 5+ languages, using Google Gemini API for real-time explanations and Google Cloud TTS API for multilingual audio output, reducing content delivery time by 60%.

Yield Curve Spread Prediction | Python, Scikit-learn

- Built an XGBoost regression model to forecast the U.S. 10Y-2Y Treasury yield spread using FRED API macroeconomic data, enabling early detection of potential economic recessions.

## EXTRA CURRICULAR

- Amazon ML Summer School 2023: Completed an intensive program by Amazon concentrating on advanced machine learning concepts and applications taught by Amazon Engineers.