

# ANISH VEMPATY

929-689-4564 • anish.vempaty@gmail.com • linkedin.com/in/anish-vempaty/

## Cyber Security Engineer

Recent graduate of NYU's Master of Science in Cybersecurity with hands-on experience in secure backend development, cloud infrastructure, and threat detection. Skilled in designing scalable, serverless systems using AWS and containerized pipelines, and proficient in vulnerability assessment, penetration testing, and network security. Passionate about solving real-world security and engineering challenges through clean, maintainable code. Recognized for combining strong technical execution with a collaborative, team-oriented approach that delivers measurable impact.

### Professional Experience

#### DELTA RISING FOUNDATION

AUG 2025 – PRESENT

##### DATA SCIENTIST

Delta Rising Foundation is a nonprofit dedicated to accelerating science-based sustainability solutions by advancing biodiversity conservation, carbon programs, and community resilience in underserved communities.

- **Successfully Developed AI Models to Deliver Defensible Carbon Sequestration Estimates:** Built AI models (Random Forest, XGBoost) that accurately quantified per-tree carbon sequestration, giving the foundation reliable metrics to support proposals, advocacy, and donor engagement.
- **Created First-of-Its-Kind Forest Carbon Dataset:** Engineered a proprietary dataset by combining LiDAR scans with soil and climate data, overcoming lack of available sources and enabling scalable carbon modeling.
- **Transformed Raw LiDAR Into Actionable Insights:** Processed 3D laser scans to extract tree height, diameter, and volume, converting raw data into reliable forest metrics that informed conservation planning.
- **Enabled Scalable, Reproducible AI Workflows:** Designed and documented robust data pipelines (pandas, GeoPandas, Shapely, PDAL), allowing methodologies to be replicated across species and regions.
- **Strengthened Scientific Rigor of Modeling Efforts:** Integrated findings from ecology and forestry research (sequoias, fire dynamics, allometry) to refine models, boosting both precision and scientific legitimacy.

#### SRM INSTITUTE OF SCIENCE & TECHNOLOGY (SRMIST), CHENNAI, INDIA

JUN 2022 – DEC 2022

##### DATA ENGINEER INTERN

SRMIST is a university in Chennai, India focused on engineering, science, and technology education.

- **Automated Alumni Data Collection:** Built Python/Selenium web-scraping application that extracted 30+ years of alumni contact data from LinkedIn, delivering actionable datasets to university leadership.
- **Designed Scalable ETL Pipeline:** Created end-to-end workflows to clean, structure, and organize large datasets, enabling reliable access for institutional outreach and engagement programs.
- **Improved Data Collection Efficiency:** Enhanced automation with batch processing and error handling, increasing reliability and reducing manual intervention across thousands of records.
- **Delivered Insights for Outreach Strategy:** Generated structured alumni database that empowered SRMIST to strengthen connections with graduates and expand university network visibility.

#### FOXMULA CORP., BENGALURU, INDIA

DEC 2020 – FEB 2021

##### CYBERSECURITY ENGINEER INTERN

Foxformula Corp is an educational technology company based in India that develops software and training programs to help students strengthen STEM (science, technology, engineering, mathematics) skills and prepare for competitive entrance exams.

- **Engineered Confidential Image Encryption System:** Developed a secure communication platform combining chaos-based encryption with AES in Python, cutting encryption/decryption time by 10% while ensuring end-to-end confidentiality.
- **Team Lead for Cybersecurity Project:** Selected to lead a team of 4 peers within a 15-member engineering group, coordinating design improvements that accelerated project delivery and enhanced system performance.
- **Optimized Data Processing Pipelines:** Enhanced processing pipelines with multithreading and efficient I/O handling, improving data throughput and operational efficiency by 5%.

- Applied Cybersecurity Innovation:** Contributed to development of proprietary educational platforms by embedding advanced encryption protocols, ensuring secure handling of sensitive user data.

## VERZEO TECH, BANGALORE, INDIA

APR 2020 – JUN 2020

### AI ENGINEER INTERN

- Developed Automated Emergency Response System:** Built solution that instantly notified ambulances and traffic control upon accident detection, reducing delays and enhancing road safety.
- Increased AI Detection Accuracy to 93%:** Engineered an application focusing on real time Traffic and Pedestrian Accident Detection using Python, OpenCV, and a YOLOv3-based object detection, increasing detection accuracy from 84% to 93% by fine-tuning model hyperparameters.
- Created Reliable Deployment Framework:** Launched Flask-based monitoring dashboard with asynchronous logging, cutting downtime by 5% and ensuring continuous traffic surveillance.

### Portfolio Projects

#### EDGE DEVICE CYBER THREAT DETECTION USING ML

- Built a smart security system using Python, Scapy, and Streamlit to detect cyber threats in real time by analyzing internet traffic.
- Trained classification models (SVM) on public datasets like CICIDS, NSL-KDD to distinguish malicious from benign traffic.
- Deployed the trained model on Raspberry Pi 5, enabling lightweight, on-device threat detection with low resource overhead.
- Used Scapy to capture internet packets and extract features, and Streamlit to build a live dashboard for monitoring threats visually.

#### CLOUD-BASED SOURCE CODE VULNERABILITY DETECTOR (AWS)

- Developed a cloud-native security tool to scan GitHub repos for vulnerabilities using Python and Semgrep, with optional AI remediation using Gemini.
- Designed a serverless architecture using AWS Lambda, SQS, SES, API Gateway, and DynamoDB to ensure scalability and async processing.
- Implemented caching logic and decoupled remediation workflows using SQS queues and dual Lambda functions.
- Deployed a static frontend on S3 and integrated with API Gateway for real-time result viewing and scan submission.

### Skills

**Security & Forensics:** DFIR, Threat Hunting, SIEM (Splunk), Vulnerability Assessment, Penetration Testing, Incident Response, Cryptography, Network Security, MITRE ATT&CK, Snort, Wireshark, Burp Suite, Nmap, VPNs, IDS, Network Protocols,

**Cloud & DevOps:** AWS (Lambda, S3, API Gateway, DynamoDB, SES, SQS), Docker, Kubernetes, GitHub Actions, CI/CD, Network Architecture

**Programming & ML:** Python, PyTorch, TensorFlow, Scikit-learn, OpenCV, SQL/NoSQL, REST APIs, FastAPI, Flask

**AI & GenAI:** LangChain, HuggingFace, LLMs, RAG, MLflow, GenAI security applications

**Other:** C/C++, Java, Linux (ARM/x86), System Design, Data Pipelines (Kafka, Spark), Log Analysis

### Education

#### NYU Tandon School of Engineering

Master of Science – MS, Cybersecurity (August 2023 - May 2025)

#### SRMIST CHENNAI (Chennai, India)

Bachelor of Technology – BTech, Computer Science (June 2019 – May 2023)

### Certifications

- CompTIA Security+ ce Certification** - ID COMP001022823841 (2025)
- Building Web Applications in PHP** - University of Michigan BXE45B434J2T (2022)
- Microsoft MTA: Security Fundamentals** - Certified (2021)
- PadhAI Deep-Learning** (2021)