BITRA BHASKARA YASHWANT

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EDUCATION

Binghamton University, State University of New York, Thomas J. Watson College of Engineering and Applied Science
Master of Science in Computer Science, Artificial Intelligence Track *August 2024 - May 2025*
Cumulative GPA: 3.82 / 4.00
Bachelor of Science in Computer Science *August 2022 - May 2024*
Cumulative GPA: 3.82 / 4.00 | **Dean's List**: Fall 2022 – Spring 2024
Relevant Coursework: Intro to Machine Learning, Data Structures and Algorithms, Intro to Artificial Intelligence, Social Media Data Pipelines, Science of Cybersecurity, Operating Systems, Computer Architecture, Intro to Computer Security, Intro to Data Mining, Programming Languages

TECHNICAL SKILLS

Programming Languages: C++, C, JavaScript, Python, X-86 Assembly
Frameworks/Tools: React.js, Docker, AWS, Flask, D3.js, Wireshark, Git, GitHub, Linux, Unix, Visual Studio Code, Jupyter Notebook, LTspice
Databases: MongoDB, MySQL, PostgreSQL
Certifications: Google Data Analytics, Google Cybersecurity, Relational database systems

PROFESSIONAL EXPERIENCE

Binghamton University School of Computing, *Teaching Assistant* | Binghamton, NY *August 2024 – May 2025*

- Guided 40+ students through React.js, TypeScript, and MongoDB concepts, boosting project success and technical confidence
- Built and rolled out autograders for TypeScript projects, reducing grading time by 40% and enhancing feedback precision using automated file annotation tools
- Mentored over 30 students during office hours, debugging code, and reinforcing scalable design patterns and development best practices

CoreCard Inc., Internship | Atlanta, Georgia
Software Developer *July 2023 – August 2023*

- Developed a 3D interactive visualization prototype using D3.js, Dash, and Python libraries, resulting in a 30% reduction in client analysis time through clear, interactive graphics
- Optimized Flask integration to handle 50+ API calls daily, improving data retrieval by 20% and simplifying workflows for client-facing reports
- Delivered a high-fidelity visualization prototype to over 10 clients, showcasing analytical features that directly impacted decision-making processes and led to actionable insights for credit card data initiatives exceeding $500K

Machine Learning Engineer *May 2023 – June 2023*

- Engineered a fraud detection system for credit card transactions using Scikit-learn pipelines, achieving 85% accuracy and outperforming prior benchmarks by 10%
- Elevated the data pipelines with scikit-learn, leveraging SMOTE for class imbalance and evaluating models like Random Forest, K-Nearest Neighbors, and XGBoost using F1-score and AUC metrics
- Deployed the system via a Flask REST API, enabling real-time fraud alerts and reducing fraud by 25% across 1M+ transactions

PROJECT EXPERIENCE

Mobile Intrusion Detection System Prototype, Independent Project | Binghamton, NY *January 2025 - May 2025*
Technologies: Python, TensorFlow/Keras, mitmproxy, Kali Linux, LUKS encryption, Streamlit, scikit-learn

- Designed a secure mobile network traffic pipeline capturing and preprocessing over 25,000 HTTP/HTTPS flows from an iOS device using mitmproxy, securely stored using LUKS encryption
- Re-engineered an unsupervised deep autoencoder model trained on 21,993 transformed network flows, achieving a reconstruction error threshold at the 95th percentile, reducing flagged anomalies from 1,100 to 103 flows after applying whitelist filtering
- Implemented an interactive Streamlit dashboard, enabling real-time monitoring and analysis of anomaly detection results, simplifying the visualization and investigation of potentially malicious network activities

Evil Twin Attack, *Independent Project* | Binghamton, NY *August 2024 - December 2024*
Technologies: Python, Wireshark, Kali Linux, Aircrack Suite, DNS Services, USB Wi-Fi Adapters

- Architected Evil Twin attack simulations using rogue APs, exposing 10+ network vulnerabilities, and capturing credentials with 80% success
- Programmed a Python script to block rogue AP connections, improving detection speed by 50% with real-time BSSID monitoring
- Investigated and launched decoy SSIDs alongside fake captive portals, misdirecting over 90% of attackers while identifying critical security gaps to enhance overall network defenses

Social Media Data Crawlers, *Co-Developer* | Binghamton, NY *August 2024 - December 2024*
Technologies: Python, MongoDB, Flask, AJAX, Chart.js, Bootstrap, Moderate Hate Speech library, Hugging Face

- Scraped and processed 100K+ data points from 2 Subreddits, 2 4chan boards, and 2 YouTube channels to analyze trends in technology and movies
- Executed real-time scraping, resolving 95% of rate limits and HTTP errors, handled 10,000+ data points in MongoDB, and assessed toxicity with 90% accuracy using a Flask-based dashboard and LLM chatbot
- Generated insights into trend creation, concluding Reddit's structured discussions are 30% more effective for long-term trends, while 4chan excels in short-term viral trends

LEADERSHIP AND INVOLVEMENT EXPERIENCE

Theta Tau Engineering Fraternity, *Vice President* | Binghamton, NY *December 2023 - May 2024*

- Directed all committee chairpersons, directing fraternity committees and operations to ensure the smooth execution of events
- Motivated team members and established clear milestones and deadlines, enhancing overall productivity and boosting engagement by 25%