

NILESH JAKAMPUTI

Austin, Texas

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TECHNICAL SKILLS & CERTIFICATIONS

Certifications: Offensive Security Exploit Developer(OSED), Security+, x86-64 Architecture, Zero2Automated, OSWE & CPTS (Pursuing).
Core Security: Reverse Engineering, Exploit Development (x86/x64), Vulnerability Research, Web Application Penetration Testing, Code Review, Threat Modeling, Vulnerability Root Cause Analysis (RCA)
Programming: Python, C/C++, x86/x64 Assembly, Go, PowerShell, Micro-controller Programming (Arduino, ESP8266, ESP32, NEO6M).
Debugging & R.E: Binary Ninja, IDA PRO, WinDBG
Security Analytics & Data Science: Malware Analysis (Static/Dynamic/ML-based), Graph ML (GNNs), NLP for Security, Anomaly Detection, Statistics
Data Science Tools: PyGeometric(Graph Analysis, GNN's), LangChain, Pandas, NumPy, scikit-learn, Jupyter, Anaconda
Networking: TCP/IP Suite (TCP, UDP, IP), WebSockets, Cryptography(PKI, Symmetric Key Crypto), DNS, IDS/IPS, TFTP, SMTP, POP3
Databases: SQL, Neo4j, PostgreSQL, Qdrant Vector DB
Cloud Computing, Virtualization & Emulation: AWS(IoT, Sagemaker), Google Cloud(Vertex), Terraform, VMware, Docker, QEMU
Frameworks: MITRE ATT&CK, MITRE ATLAS, NIST CSF, OWASP WSTG.

EDUCATION

Rochester Institute of Technology

Sep. 2021 – May. 2024

Master of Science in Information Science & Analytics - GPA:3.6

- **Coursework:** Malware Reverse Engineering, Network Attack and Defense, Database Design, Information Retrieval, Applied Statistics, Applied Machine Learning, Visual Analytics, Information Assurance and Compliance.
- **Clubs:** RIT Security Club, RIT Football, RIT E-Sports

SRM Institute of Science & Technology

Aug. 2014 – Nov. 2018

Bachelor of Science in Computer Science & Engineering - GPA:3.1

- **Coursework:** Data Structures and Algorithms, Microprocessor and Interfacing, Computer Networks, AI and Expert Systems, Theory of Computation

EXPERIENCE

Research Assistant - Reinforcement Learning for Embedded Systems

Aug 2024 - Present

University Of Florida

Remote, USA

- Developed partial observability Reinforcement Learning(RL) environments for quadcopter drones using pyBullet, Robot Operating System(ROSv2), and OpenAI Gym, reducing experiment iteration time by 35%.
- Led research to integrate GNN's and attention mechanisms from transformers with node positional information to decrease collision rates in multi agent(Drones, F1-Tenth Racing) scenarios by 20%
- Upgraded system architectures from ROS1(C++17) to ROS2(C++20), optimizing path planning algorithms(Dijkstra, A*, Pure Pursuit, MPC) and Python launch files, resulting in 10% improved computational efficiency.

Application Security Engineer

Nov 2019 – May 2020

Entersoft Security

Hyderabad, India

- Conducted assumed breached security assessments across 50+ web applications with different architectures.
- Identified, validated, and exploited critical vulnerabilities including SQLi, XXE, XSS, CSRF, SSRF, SSTI, and RCEs, performing root cause analysis to understand weaknesses.
- Developed PoC exploits demonstrating full chain RCEs and significant business impact, effectively communicating risk to stakeholders and guiding remediation priorities.
- Delivered security enablement sessions to development teams on secure coding practices (OWASP Top 10), contributing to improved application security posture.

Data Analyst

Jul 2020 - Jul 2021

EVRE

Remote, India

- Developed Python data pipelines to ingest, process, and integrate diverse datasets (telemetry, demographics), enabling data-driven strategic decisions for infrastructure placement
- Created interactive Tableau dashboards to visualize key operational metrics, improving data accessibility and accelerating decision-making for engineering and management teams by 25%.
- Applied analytical techniques to identify usage patterns and optimization opportunities, contributing to a 30% increase in charging station utilization.

System Administrator - Junior

Nov 2018 – Oct 2019

Lahari Music Company

Bangalore, India

- Engineered the digital conversion of 10,000+ analog media assets, automating workflows with a custom CMS (JavaScript, HTML, CSS, MySQL), boosting team efficiency by 30%.

PROJECTS

LLM-Driven Windows Malware Classifier | Python, QEMU, FLARE Speakeasy Emulator, Qdrant Vector DB, Langchain, Pytorch, Unsloth

- Developed a malware classification pipeline by emulating 80,000+ Windows PE files, collected API Calls and Parameters, used LLM's to classify malware and reduce achieving 70% classification accuracy over 9 malware categories

Detection Engineering Lab | Virtual Box, Lima Charlie, YARA, SIGMA, GCP

- Set up lab infrastructure with a server hosting OWASP Juice Shop and a Lima Charlie Agent connected to the GCP backend. Ran a vulnerable website and performed attacks against it, deployed payloads to catch reverse shells. Created Yara and Sigma rules to fire off detections and monitor hosts over the Lima Charlie cloud.