Joshua M Varughese

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Education

VIT Bhopal University, B.Tech. in Computer Science and Engineering   Sept 2022 – Present
- CGPA: 8.06
- **Specialization:** Cybersecurity and Digital Forensics

Technical Skills

Languages: C, Python, SQL, Bash, PowerShell Scripting, R, HTML, CSS, JavaScript
Frameworks and Libraries: OpenCV, Tensorflow, xgboost, catboost, CanSat, CubeSat
Developer Tools and Platforms: GitHub, Docker, AWS, Firebase, Vercel, Vim/neoVim
Cybersecurity: Linux System Administration, BurpSuite, Wireshark, Autopsy, OpenVAS, Nmap

Professional Experience

Space Entrepreneur Intern, INDIA SPACE LAB (Winter Internship)   Dec 2024 – Jan 2025
- Researched and compared 3+ CubeSat architectures, analyzing trade-offs between power, cost, and data throughput for specific use cases.
- Trained a computer vision model using TensorFlow Lite, enabling real-time animal species classification onboard a drone with 85% accuracy in tests.
- Optimized the data pipeline for the drone system, reducing image processing latency by 30% to allow for near real-time tracking and monitoring.

Projects

CYPICS – Crime Reporting and Emergency Assistance App   github
- Engineered an Android app that reduced incident reporting time by 70% compared to traditional hotlines
- Implemented secure Firebase authentication and encryption for 100% confidentiality of user data
- Integrated direct one-tap calling to 5+ essential emergency services (local police, ambulance, fire) and leveraged Google Maps API for precise location sharing.
- **Tools:** Java, Kotlin, Firebase (Firestore, Auth), Android Studio

EDITH – Host-based Intrusion Detection System   github
- Built and packaged lightweight Bash-based HIDS deployed as Debian package for real-time log analysis.
- Authored SSH brute-force detection with >98% accuracy against 1,000+ simulated attacks.
- Architected daemonized service with dynamic reloads ensuring <2s update downtime.
- Enabled customizable shell-based alerting for seamless integration with syslog, SIEM, and automated scripts, processing 10,000+ events/minute with zero alert loss.

UNITY SERVE – NGO Web Portal   github
- Designed and deployed a full-stack web portal using React and Firebase for donations and volunteer management.
- Achieved <2s page load times and 90+ Lighthouse score via Firebase Hosting CDN optimization.
- Ensured 99.9% uptime and scalable traffic handling using Firebase's serverless infrastructure.
- Implemented security with Firebase Auth RBAC and SSL with zero critical vulnerabilities.
- **Tools:** React, JavaScript, Firebase, Lighthouse, GitHub, Google Maps API, RazorPay API

Certifications

- Artificial Intelligence and Data Science value added course by C-DAC CENTRE IN NORTH EAST (CINE)-GUWAHATI
- IBM Cybersecurity Analyst

Achievements

- Runner up for Business Ideathon at Advitya'24
- Secured AIR 209 in All India Space Lab Winter Internship Examination 2024-2025 out of 2000+ participating.