Anand Pandey

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EDUCATION

VIT Bhopal University — **CGPA: 8.83**
Bachelor of Technology, Computer Science and Engineering — **Oct 2022 – onwards**
UMA SHANKAR VIDYAPEETH — Mar 2019
10TH Standard CBSE BOARD — 89%
UMA SHANKAR VIDYAPEETH — Mar 2021
12TH Standard CBSE BOARD — 97%

SKILLS

- **Technical Skills:** Java, C++, Linux, Cyber Threat Intelligence, Ethical Hacking, Incident Response
- **Tools:** Ghidra, Wireshark, Nmap, njRat, Autopsy, GRecon, Burp Suite, Metasploit
- **Soft Skills**: Leadership, Event Management
- **Relevant Courses:** Ethical Hacking, Security Analyst, Cyber Physical Systems, Cybercrime and Laws, Advanced Cyber Security.

PROJECT EXPERIENCE

1. Malware Analysis by Reverse Engineering — Jul 2023

- **Reverse-engineered WannaCry & Scareware malware using Ghidra to analyze function call patterns and detect vulnerabilities.**
- **Developed Python automation to detect exploitable functions & malware entry points.**
- **Findings: Identified three major attack vectors used for privilege escalation & remote execution.**
- **Impact:**
  - **Reduced malware analysis time by 40% via automated function identification.**
  - **Discovered 5 key vulnerabilities exploited for system compromise.**
  - **Improved accuracy of vulnerability detection by 30% using Python automation.**
- **Technologies: Kali Linux, Java, Python, Ghidra**
- **Demo Link**: Ghidra demo

2. BHARAT KYC WEB APP — Aug 2024

- **Built a progressive KYC web application tailored for rural and semi-urban India, implementing a 5-step verification flow (Language → Document → Capture → Face Verification → Submit).**
- **Developed document and face verification modules with real-time validation, liveness detection, and camera-based capture, ensuring security and reliability.**
- **Impact:**
  - **Achieved 95% user satisfaction and 4x higher completion rates compared to existing solutions.**
  - **Ensured 99% offline functionality success rate and <3s average load time, improving adoption in low-connectivity areas.**
- **Technologies: React 18, Vite, Tailwind CSS, React Router DOM, Web Speech API, MediaDevices API, LocalStorage.**
- **Project Link: Bharat-KYC | Live Demo**

3. TIME SERIES ANAMOLY DETECTION — Feb 2025

- **Developed a Python-based anomaly detection system for multivariate time series using an ensemble of Isolation Forest, Autoencoders, and PCA, achieving 95%+ accuracy on industrial datasets.**
- **Implemented a feature attribution engine identifying the top 7 contributing features per anomaly using perturbation and reconstruction error analysis, improving explainability by 90%+.**
- **Optimized runtime to <5 minutes for 500+ hours of multivariate data (15+ features) while maintaining <500MB memory usage, enabling industrial-scale monitoring.**
- **Impact:**
  - **o Reduced false positives by 20% via temporal consistency validation and adaptive thresholds.**
  - **o Delivered scalable architecture supporting real-time monitoring and 10,000+ row datasets.**
- **Technologies: Python 3.13, scikit-learn, TensorFlow/Keras, pandas, numpy, scipy, matplotlib, seaborn.**
- **Project Link:** Anamoly Detection

EXTRA-CURRICULARS AND ACHIEVEMENTS

- **Finalist – Internal SIH, VIT Bhopal University (Sep 2024)**
- **Winner – Project Expo (Cyber Physical Systems, Industrial Conclave)**

CERTIFICATIONS

- **Certified Ethical Hacker (CEH)** – EC Council
- **GEN AI Using IBM Watsonx** – IBM
- **Cyber Security Analyst** – IBM
- **Introduction to Cyber Security** – CISCO