

# SUMIT PAL

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## PROFESSIONAL SUMMARY

Multidisciplinary engineer specializing in cybersecurity, Android development, and AI/ML with proven expertise in building secure, scalable mobile applications. Experienced Ethical Hacker with hands-on Red Team operations. Passionate about integrating intelligent security into every layer of software development, from API vulnerabilities to ML-powered threat detection.

## EDUCATION

<b>Amity University</b> , Greater Noida Campus	<i>July 2023 – July 2025</i>
Master of Computer Applications (MCA) – Information Technology	
<b>Institute of Technology &amp; Science</b> , Ghaziabad	<i>2019 – 2022</i>
Bachelor of Computer Applications (BCA) – Information Technology	

## PROFESSIONAL EXPERIENCE

<b>Ethical Hacker (Red Team)</b> – CyberSapiens	<i>November 2022 – April 2023</i>
• Conducted penetration testing and vulnerability assessments on web applications, mobile apps, and network infrastructure	
• Identified and documented critical security vulnerabilities including SQL injection, XSS, and authentication bypass flaws	
• Collaborated with development teams to implement secure coding practices and remediation strategies	
• Performed social engineering assessments and security awareness training for organizational stakeholders	
• Delivered comprehensive security reports with actionable recommendations aligned with OWASP standards	

## TECHNICAL SKILLS

<b>Languages:</b> Kotlin, Java, Python, SQL, JavaScript, LaTeX
<b>Mobile Development:</b> Android SDK, Jetpack Compose, Firebase, RESTful APIs, Room Database, MVVM Architecture
<b>Cybersecurity:</b> Penetration Testing, Vulnerability Assessment, OWASP Top 10, Network Security, API Security, Red Teaming
<b>AI/ML &amp; Data Science:</b> TensorFlow, PyTorch, Scikit-learn, Pandas, NumPy, Jupyter, Data Visualization, Anomaly Detection
<b>Tools &amp; Platforms:</b> Git, Android Studio, Burp Suite, Wireshark, Metasploit, Linux, Docker, Firebase, Postman
<b>Security Practices:</b> Secure SDLC, Threat Modeling, Encryption, Authentication & Authorization, Network Protocol Analysis

## KEY PROJECTS

<b>Secure Android E-Commerce Application</b>   <i>Kotlin, Firebase, Jetpack Compose, OAuth2.0</i>
• Built end-to-end encrypted Android shopping app with 10,000+ test users, implementing secure payment gateway integration
• Designed MVVM architecture with Firebase Authentication, Firestore, and Cloud Functions for scalable backend operations
• Implemented certificate pinning, ProGuard obfuscation, and runtime security checks to prevent reverse engineering
• Integrated ML-based fraud detection system reducing fraudulent transactions by 35%
<b>ML-Powered Network Intrusion Detection System</b>   <i>Python, TensorFlow, Scikit-learn, Pandas</i>

- Developed machine learning model achieving 94% accuracy in detecting network anomalies and malicious traffic patterns
- Processed and analyzed 500K+ network packets using feature engineering and ensemble learning techniques
- Created real-time alerting dashboard for SOC teams with automated threat classification and incident prioritization

**API Security Testing Framework | Python, Burp Suite, OWASP ZAP, Postman**

- Automated REST API security testing framework identifying authentication, authorization, and injection vulnerabilities
- Reduced manual testing time by 60% through custom scripts for OWASP API Security Top 10 validation

## CERTIFICATIONS

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**Tata GenAI Powered Data Analytics Job Simulation** – Forage

**Tata Data Visualisation: Empowering Business with Effective Insights Job Simulation** – Forage

## ADDITIONAL INFORMATION

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**Leadership:** Active mentor for aspiring developers and cybersecurity enthusiasts; conducted 50+ mentorship sessions

**Interests:** Open-source contribution, mobile security research, AI ethics, competitive programming