

# AKSHAT AGARWAL

Cybersecurity & Database Engineer | SQL DBA Trainee | Quantum Cryptography Researcher

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## SUMMARY

Cybersecurity-focused Computer Science graduate with hands-on experience in SQL database administration, penetration testing, and quantum cryptography research. Skilled in database optimization, automation scripting, and secure system development. Currently undergoing advanced SQL DBA training at TCS under the Xceed Program. Strong foundation in offensive security, secure coding, and emerging cryptographic technologies.

## PROFESSIONAL EXPERIENCE

### SQL DBA Trainee – Tata Consultancy Services (TCS)

August 2024 – Present | Xceed Program

- Designed and optimized SQL packages enabling centralized logging and monitoring for SQL jobs and automated database workflows.
- Developed automated Perl scripts to analyze and validate PI data files, ensuring data integrity before system ingestion.
- Performed query optimization, indexing, transaction management, and production troubleshooting to enhance database performance and reliability.

### R&D Intern – Quantum Cryptography | AvinyaSq

May 2024 – August 2024

- Researched quantum key distribution (QKD) mechanisms and post-quantum cryptographic algorithms
- Studied integration of quantum-resistant encryption with classical security infrastructure
- Contributed to research documentation on secure quantum communication protocols
- Analyzed future implications of quantum computing on cybersecurity systems

### Security Testing Intern – Panacea InfoSec

June 2022 – July 2022

- Conducted passive reconnaissance and web application penetration testing
- Identified vulnerabilities and documented findings with remediation strategies
- Assisted in vulnerability assessment reporting for client applications

# EDUCATION

## B.Tech – Computer Science & Engineering (Information Security)

Vellore Institute of Technology (VIT)

September 2020 – May 2024

Relevant Focus Areas: Cyber Security, Penetration Testing, Vulnerability Analysis, Algorithms, Data Structures, OOPS (Java), Web Security

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# TECHNICAL SKILLS

Cybersecurity & Web Security (Penetration Testing, OWASP Top 10, Vulnerability Assessment), Database Administration (SQL, Oracle, MySQL, Performance Tuning, Backup & Recovery), Secure Coding Practices.

Python, Perl, Java, C, JavaScript | Burp Suite, Metasploit, Nmap, Sqlmap, OWASP ZAP, OpenSSL | Linux, Docker, Git.

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# PROJECTS

### Network Attack Detection Using Machine Learning

Designed an intrusion detection system using SVM, Naive Bayes, and ensemble classifiers with advanced feature selection (Chi2, RFE, Lasso). Improved attack classification accuracy and reduced false positives through optimized model stacking and validation techniques.

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### AI Face Mask Detection (Computer Vision Security Use Case)

Implemented a real-time deep learning-based detection system using OpenCV to enforce compliance monitoring in surveillance environments. Focused on secure input handling and model reliability for live video stream processing.

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### Secure Online Flight Booking System (Web Application Security Hardening)

Developed and secured a web application by identifying and mitigating SQL Injection, XSS, HTML Injection, and Path Traversal vulnerabilities. Applied input validation, output encoding, and secure coding practices aligned with OWASP Top 10 standards.

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# CERTIFICATIONS

- Cyber Security Essentials – Cisco Network Academy (2023)
- NPTEL Ethical Hacking (2023)
- Advanced Software Engineering Virtual Experience Program (2023)
- Tata Group Cybersecurity Analyst Job Simulation (2024)
- TCS Xceed SQL DBA Training Program (2024)