

Chirantar Vilas Nalawade

Schröfelhofstraße 6, 0204, Munich, 81375 | chirantar.nalawade@tum.de | +4915166141957 | [LinkedIn](#) | [Github](#)

WORK EXPERIENCE

- **PricewaterhouseCoopers** Munich, Germany
Cyber security research working student October 2018 - June 2020
 - Enhanced **security configurations** in several projects identifying issues that could have lead loss of confidentiality and reliability of services.
 - Performed **cyber risks assessments** of internal projects by making use of risk management framework to identify, analyse and mitigate risks as per the standard of **ISO27001**.
 - Identified **key assets** & performed **threat mitigation** by prioritizing and analysing security use-cases as per **STRIDE** model
 - Automated multiple network applications using Java and Python for improving the efficiency of client services by **97%**.
 - Deployed **Identity and Access Management(IAM)** solution such as **CyberArk** in cloud based environment.
 - Analyzed new platforms for vulnerability assessment of **OWASP top 10** by collaborating with several international teams.
 - Developed a Artificial Intelligence based semi-supervised **Natural Language Processing model** to perform an automatic data obfuscation for protecting sensitive data.
- **Technical University of Munich** Munich, Germany
Graduate Research Intern at Institute of Ethics in AI Jun. 2019 - Jan. 2020
 - Analyzed various interconnected services in a cloud platform for discovering ethical issues pertained to data compliance laws such as **GDPR**.
 - Identified **privacy and compliance** issues pertaining to **user consent** and involvement of Third party APIs.
 - Collaborated with stakeholders, legal teams, and developers for resolution of critical issues by designing solutions that incorporated advanced techniques such as differential privacy, **Public Key Infrastructure**.
- **Nova Products GmbH** Munich, Germany
Software Developer Intern Jan. 2018 - Mar. 2018
 - Developed an Android application “BlueEm” to enable a secure wireless communication with internal Bluetooth hardware.
 - Implemented an Android application “Saveme” which sends GPS coordinates via SMS at the time of emergency to family members.
- **Tata Consultancy Services** Mumbai, India
Associate System Engineer Trainee Mar. 2017 - July. 2017
 - Developed **full-stack** applications for external clients in the banking sector using **Java8** as front-end and **MySQL** as back-end.
 - Performed Continuous Integration and Continuous Delivery **CI/CD** pipeline using **Git**.
 - Developed micro services for **automating encryption** using **AES 256** and **MD5** hashing of sensitive tokens.
 - Enhanced the system security of an internal project by providing Multi factor authentication(**MFA**) such as OTP, verification email for login services in remote devices.

TECHNICAL SKILLS

- **Programming Languages:** C(7 years), Python 2(6 years), Java8(6 years), C++(2 years), PHP, Assembly, Ruby, Java-Script, SQL.
- **Security Protocols:** SSH, OAuth, OpenID, , IP-Sec, HTTP/2, TLS, Kerberos.
- **Network Protocols:** DNS, TCP/IP, DNS64, OSPF, RIP, BGP, ICMP, Ethernet, IPv6, IPv4.
- **Security Standards:** ISO 27001, PCI-DSS, GDPR, ISO 15408, ISO 31000, OWASP.
- **Cryptography:** AES, 3DES, SHA256, MD5, RSA 8.3, Homomorphic Encryption, Differential Privacy, PKI.
- **Tools:** IDA-Pro, Git(5 years), BitBucket, MySQL, MongoDB, NoSQL, Linux(8 years), Windows(6 years), MacOS(4 years).

LANGUAGE SKILLS

- **English:** CEFR Level C1, Excellent Reading, Writing & Communication skills.
- **German:** CEFR Level A2, Intermediate Reading, Writing & Communication skills.

PUBLICATIONS

- **Internet of Things, Security Perspective Survey:**
 - Analysed physical and network security issues in Internet of Things.
 - Accepted under IJSER 2017

EDUCATION

- **Technical University of Munich** Munich, Germany
Masters of Science in Computer Science October 2017 - July 2020
 - **Relevant Modules:** Security Engineering, Cloud Computing, Network Security, Patterns in Software Engineering, Distributed Systems, Seminar on Intrusion Detection Systems.
- **University of Mumbai** Mumbai, India
Bachelors in Computer Engineering October 2012 - October 2016
 - **Relevant Modules:** Cryptography, Operating System Security, Advanced Computer Networks, Algorithms and Programming Languages, Distributed Databases.

SELECTED PROJECTS

- **Internet Lab Network Project:**
 - Built an Open System Interconnection(OSI) network that simulates the Internet using virtual netbeds and programming routers, switches.
 - Created Domain Name Systems(DNS) with Berkeley Internet Name Domain(BIND) and DNS with Anycast with Network Address Translator(NAT), implemented BBR congestion control mechanism.
 - Performed BGP Hijacking and Denial of Service by redistributing malicious BGP Update messages as Inter-AS routing usually relies on by BGP peers announcements.
 - Performed Quantum Insert attack by transparent modification TCP SYN-ACK packets and HTTP-redirect and mod_substitute.
- **Android Security Research Project:**
 - Classified Android Apps into Malware or Good-ware depending on feature extraction using Decision Trees and Reverse Engineering with accuracy of **94%**
 - Performed hijacking that exploited kernel vulnerabilities to maliciously delete contacts and gain root access.
 - Demonstrated client side injection by exploiting vulnerable User Interface and making use of Tapjacking vulnerability.
- **Connected Mobility Research Project:**
 - Implemented TUM mobility model with use of ONE Simulator by analysis of different movement patterns across the building.
 - Designed a robust file transfer protocol that is resilient and efficient in case of intermittent connectivity.
 - Performed Mobility Tracking by capturing WiFi Probe request into **PCAP** files and analysing them using matplotlib.
- **Web Application Hybrid Scanner:**
 - Designed Hybrid Scanner which used combination of white box and black box testing which increased SQL & XSS vulnerability detection by **90%**.
 - Reduced the number of false positives and false negatives by **87%** compared to industrial tools such as Wapiti and Pixy.

LEADERSHIP EXPERIENCE

- **TUM Minga Mentor** Munich, Germany
Volunteer October 2019 - March 2020
 - Supported new international & exchange semester students to ensure their smooth transition to start their semester.
 - Acted as a first of contact for any issues pertaining to administrative matters, study questions, choice of courses, and cultural transition.
- **National Service Scheme** Mumbai, India
Volunteer March 2014 - April 2016
 - Organized blood donation camps, visits and information disclosure amongst underprivileged.
 - Coordinated in teams in various village projects to build dams, roads for easier access to transportation and water.