Kalyan Cheerla

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Professional Summary

Diligent and experienced Software Engineer, currently pursuing a master's in Computer Science at UNT, with a thesis on Privacy-Preserving Machine Learning as a Service. Notable contributions include the development of the *MicroSvcsThreatsMapper* extension for an open-source project and a *Wunderkind* excellence award for Production & Quality Assurance bug fixes at Wipro-Mastercard Authorization. Eager to apply this blend of academic knowledge and practical skills as a Secure Software Engineer.

Education

University of North Texas — Denton, TX
Master of Science - Computer Science with *GPA: 4.0*. — Jan 2023 - Dec 2024

Chaitanya Bharathi Institute of Technology — Hyderabad, India
Bachelor of Engineering - Electronics and Communication Engineering with *GPA: 3.42*. — Aug 2014 - May 2018

Skills

Programming: C/C++, Golang basics, Python, C#/Java, Javascript basics, Shell scripting in Sh/Ksh/Bash, SQL for Sqlite3, MySQL.

Operating Systems: GNU Linux/Ubuntu/RedHat/Arch, FreeBSD, Oracle Solaris, Windows.

Subjects: Software Engineering, Analysis of Algorithms, Data Structures, Computer Security, Computer Forensics, Embedded Systems.

Certifications: Golang at Coursera, DIAT Information Assurance Intermediate certificate.

Miscellaneous: Docker, kubernetes, Ansible, Git, APIs, Vim, CTFs, Cloud (GCP/AWS/Azure), DevOps CI/CD, Integration workflows, Jenkins, SonarQube, GNU Tools, Valgrind, Postman, Nodejs.

Experience

University of North Texas — Denton, TX
Graduate Instructional Assistant at Computer Science and Engineering Department. — Aug 2023 - Dec 2024

- Working for Secure Software Systems/Development graduate course for grading, proctoring exams, and for administrative support.
- Prepared new course materials like Secure-MPC, Internal attacks in Kubernetes assignments and their lab environment setups on VPS.
- Modified existing assignments to meet with new technological advancements like upgrading old Ubuntu VMs, Dockerizing lab VMs, etc.
- Conducted weekly lab sessions to help out students in completing these Cybersecurity lab assignments and help them suceed in the course.
- Tutored students and led individual and group discussions regarding threat modeling, risk assessment, API security, and many other topics that are present in the course syllabus.

Wipro Technologies Ltd. (Mastercard Authorization) — Chennai, India
Project Engineer (Unix Application Developer) — May 2018 - Jan 2021

- Collaborated in an agile team at Mastercard Authorization on critical banking software development, addressing defects and ensuring timely, quality code delivery for projects including New China-Vietnam Mastercard infrastructure, Addition of Payment Transaction Types & Merchant Category Codes, C-JSON library - Jansson integration, and others.
- Automated several mundane tasks, including a report generator for Bitbucket pull requests, a Docker-based Flask file server called throwaway-file-server, and an auto unit test case test-fixture generator to reduce effort.
- Received Wunderkind award for my continued valued contributions, and quick production and Quality Assurance defect resolutions.

Projects

MedVoyage: Squad8's full-fledged webapp for Doctor appointment booking | *github.com/kalyancheerla/MedVoyage*
Django, GCP, GitHub CI/CD, Docker, DNS Porkbun, PERT — Aug 2023 - Dec 2023

- Led a team comprising eight individuals as Project Manager in the design, development, and testing phases of a Python Django web application aimed at streamlining clinical appointment booking and tracking processes.
- Coordinated tasks, ensured seamless collaboration among team members, and achieved milestones within the specified timeframe through Trello Boards for application management, GitHub for version controlling, and Google Cloud Platform for Deployment.
- Automated deployments using shell scripts on Docker containers in an GCP VPS, and integrated with GitHub Actions to perform Unit testing and pushing notifications on Discord.

Microsoft Office Visual Basic Script Macros - Ransomware Simulation | *github.com/kalyancheerla/MSMacro_RansomSim*
Python, Powershell, Visual Basic, MS Word, RSA, AES, OpenSSL — Aug 2023 - Dec 2023

- Led the Ransomware Simulation project, encompassing all components from action and infection to monitoring, detection, and mitigation/countermeasures, and coded major components to ensure project success.
- Coded the action component using a hybrid encryption method, where files are encrypted with an AES symmetric key, which is then encrypted using a pre-generated RSA public key and appended to the encrypted file.
- Created a malicious Word document containing a Visual Basic macro function with a PowerShell one-liner to fetch the action component executable and perform the ransomware encryption and delivered it as an attachment via a spear-phishing email.

Threat Modeling made easy for Microservices: A .NET/C# extension to TMS | *github.com/kalyancheerla/threatsmanager*
C#, .NET, Visual Studio, Nuget, Open-Source Software, Git, GitHub — Jan 2023 - Apr 2023

- Coded a Threats Manager Studio extension named MicroSvcsThreatsMapper to generate automated threat models for microservice architectural apps like OpenShift Kubernetes Clusters.
- Created an MSI installer build instructions file and fully documented all steps required for installation and use.

Awards/Achievements

Prominent member of Cybersecurity Club at UNT — 2023
Wunderkind Award by Wipro Ltd., Chennai — May 2020
Head of Robotics Club at CBIT, Hyderabad — 2018
Synapse Web Designer at ECE Dept., CBIT, Hyderabad — 2018
AIR 591 achieved in JEE(Mains) B. Arch. — 2014