

WENYUN WANG

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EDUCATION

Huazhong University of Science and Technology

09/2020 - 06/2024

Bachelor of Engineering, Cyberspace Security

Hubei, China

GPA: 3.85/4.0 86.9/100

Prize & Award: People's Scholarship 2021

RELEVANT COURSEWORK

- Advanced Programming
- Data Structures and Algorithms
- Mathematical Foundations
- Operating System
- Computer Organization
- Database System
- Computer Telecommunications & Network
- Software Security

INTERNSHIP EXPERIENCE

DP Tech (High-tech Listed Enterprise integrating R&D, production and sales)

07/2023 - 10/2023

Test Intern

Hangzhou, China

(DBeaver, Apache JMeter, Apache Kafka, Wireshark, Python, Shell scripting, Node.js, Situation Awareness, Automated Testing, Issue Tracking)

- Developed and executed traffic replay and data analytics scripts to identify problems
- Independently conducted comprehensive testing for new functionalities, ensuring the robustness of the software
- Collaborated in optimizing and designing an API risk monitoring system, significantly enhancing its effectiveness

Hubei Huadian Xiangyang Power Generation Co., Ltd (Provincial Enterprise)

07/2022 - 08/2022

Operations and Maintenance Intern

Hubei, China

(PC Maintenance, Oracle and SQL Server Database Management, Network Configuration, Router and Switch Operation, Firewall Management, Hands-on Hardware Configuration, Protection Level Assessment)

- Analyzed the network topology, identifying key weaknesses and proposing optimization solutions
- Configured switches and firewalls, developing robust security strategies to enhance system integrity
- Participated in network attack and defense simulations and performed on-site system unit inspections for virus detection
- Maintained the company's intranet websites and assisted in hardware equipment management

RESEARCH EXPERIENCE

MalPacDetector: An LLM-based Malicious npm Package Detector

02/2023 - Present

Tutor: Associate Professor Zhen Li

- Utilizing machine learning models with serialized feature vectors
- Constructing an improved dataset, addressing limitations in existing datasets for similar research
- Applying GPT for precise feature extraction assessment
- Detected 39 previously unknown malicious packages, verified by the npm community, and initiated a patent application

Optimizing Techniques for Static Program Analysis

03/2022 - 03/2023

Tutor: Associate Professor Zhen Li

- Implemented intermediate code equivalence transformations in Python for XML
- Utilized the code completion model Codex for predictions to reduce false positives in static vulnerability detection tools
- Awarded the University-Level Outstanding Student Entrepreneurship Project and presented at the inaugural Wuhan Cybersecurity Innovation Forum

Patch-based Fine-Grained Vulnerability Correlation System

12/2021 - 02/2022

Tutor: Associate Professor Zhen Li

- Conducted comprehensive analyses of over one hundred different types of vulnerabilities, summarizing their patterns from NVD platform descriptions
- Executed slicing of program code and traced data flows, matching automated assessment results with manual analysis results to evaluate the tool's effectiveness

PROJECTS

Netfilter-based Network Sniffer | *C, Linux kernel, Netlink* **09/2023 - 10/2023**

- Developed a user-defined rules system enabling state analysis and filtering of TCP, UDP, and ICMP protocol messages
- Implemented NAT functionality for IP and port conversion within the system
- Leveraged Netfilter to invoke kernel functions for packet processing

miniVPN: TLS/SSL VPN Implementation | *C, TLS/SSL programming, TUN/TAP* **05/2023 - 06/2023**

- Designed and integrated four key modules – SSL communication, pipeline communication, TUN communication, and the main scheduling module – to ensure the effective operation of the miniVPN server
- Utilized public key encryption, PKI, X.509 certificates, and authentication mechanisms to establish secure transmission channels

TFTP Protocol Client Program | *C++, Socket Programming, TCP/UDP* **11/2022 - 12/2022**

- Understood reliable transmission protocols in computer networks through writing and debugging socket programs
- Utilized socket programming and mastered how to develop network applications based on TCP/UDP
- Learned C++ object-oriented programming and wrote user-friendly interfaces using Qt

API HOOK-based Software Behavior Analysis System | *C++, Windows, Detours* **09/2022 - 10/2022**

- Utilized the Detours library to intercept Win32 functions, enabling Windows API capture and behavior analysis
- Used Detours open-source tools for Windows API capture and behavior analysis, including DLL injection, FCInject behavior analysis, and testing program API calls
- Wrote my own or used existing malicious code samples, including pop-up dialog actions
- Developed a graphical interface using Qt for feature visualization

Cafeteria Application Simulation of Campus Card | *C, Data Structures, Algorithms* **03/2022 - 04/2022**

- Designed a versatile data structure utilizing sequential, hash table, and dynamic linked table storage methods for efficient storage
- Simulated account-opening, loss report, canceling the report of loss, reissuing a card, account cancellation, and other operations
- Utilized merge sorting, loser tree for information maintenance, simulated real scenarios with different windows for spending limit and recharge
- Calculated the string similarity and implemented fuzzy search to match for large-scale data

PROFESSIONAL SKILLS

Languages: C/C++, Python, Shell, SQL, Assembly, JavaScript, MATLAB

Developer Tools: VS Code, Visual Studio, Wireshark, Pip, npm, IDA Pro, CheckMarx, DBeaver, JMeter

Technologies: Linux, Git, Docker, Reverse Engineering, Machine Learning, Network Programming, Vulnerability Detection, Automated Testing

EXTRACURRICULAR ACTIVITIES

Youth League Committee **12/2021 - 03/2023**

Deputy Secretary

- Participated in important events and designed future development plans for the student union and departments
- Organized various Youth League events, such as sports competitions, volunteer services, and cultural exchanges
- Represented the student body by presenting suggestions and promoting the protection of student rights

SOCIAL PRACTICE

Deputy Secretary of the Committee, Discipline Research and Distinguished Professor Interviews **07/2022 - 08/2022**

Team Leader, Impact of Rural Industrial Revitalization on Living Standards **07/2021 - 08/2021**

HOBBIES & INTERESTS

Arts: Singing, Piano Playing, Jazz

Sports: Badminton, Swimming