# Curtis Chang

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## EDUCATION

**University of California, Irvine (UCI)** *September 2020 – June 2024*

*Bachelor of Science* — Computer Science Major (Concentration: Information)

- **Relevant Coursework:** Data Structure Implementation & Analysis, Data Management, Computer Networks, Applied Cryptography, Databases and Web Applications, IoT Software and Systems, Software Test and Quality Assurance

## SKILLS

- **Certificates**: CompTIA Security+
- **Skills:** Version Control, Server Development, Network Security, IPS/IDS Deployment, Data Security, Malware Analysis, Security Configuration/Management, Data Security, Threat Detection/Management, Information Security Management
- **Languages:** Python, C, C++, Bash, PowerShell, Java, HTML/CSS/JS, SQL
- **Tools**: Nginx, Apache, AWS (EC2, ECS), Docker, Kubernetes, WireShark, HTTP ToolKit, Fiddler Everywhere, Snort, Zabbix, Ghidra, IDA, ANY.RUN, ProcMon

## PROJECTS

**Wenslo.me – Self Hosted Linux/Full Stack**

- Designed a high-availability website with **Proxmox** to automate cluster nodes that integrate real-time production pushes
- Implemented **Spring Boot-based** backend API services with a MySQL database, using a React Tailwind frontend
- Set up defense measures such as IP address obfuscation with Cloudflare Tunnel, DMZ set-up with pfSense network bridging, and firewall configurations with pfSense and UFW
- Monitored real-time security alerts, performed triage, and investigated incidents in a real SOC environment with Zabbix, Snort, and Cloudflare dashboards

**Proxmox Security Lab**

- Developed a controlled malware analysis environment using **Proxmox** with isolated VMs using pfSense network bridging, REMnux, and Flare-VM leveraging snapshotting for safe detonation and observation
- Perform static analysis using **IDA Free** and **Ghidra** to extract strings, identify packers, analyze binaries, and reverse engineer malware code structures
- Conduct dynamic analysis in sandboxed environments using **ANY.RUN**, **ProcMon**, and **WireShark** to monitor API calls, file system behavior, network traffic, and registry modifications in real time

**Reverse Engineering Sportsbooks' APIs**

- Captured and analyzed HTTPS traffic to uncover API endpoints, authentication mechanisms, and JSON data structures
- Performed MITM proxying in a controlled lab to inspect and replay requests, enabling automated querying of odds via Python for research and tooling development

**Phishing Attack Simulator**

- Deployed a local phishing simulation environment using **GoPhish** for campaign management, **MailHog** for secure email testing, and **Gmail SMTP** servers for message delivery
- Conducted phishing campaigns to evaluate user response behavior, collecting and analyzing engagement metrics to support cybersecurity awareness and training initiatives

## EXPERIENCE

**Software Developer – Elite Sedation** *January 2025 – Present*

- Developed an automated credential reminder system, reducing manual intervention to **almost 0%** by implementing autonomous directory organization and dynamic database synchronization, while also streamlining **100%** monthly on-time provider/PRN emails and HR notifications on credentials submit and onboarding completion
- Leveraged **Google Workspace** computation tools to orchestrate seamless workplace integration, developing highly optimized **Google Scripts** applications for enhanced automation and efficiency

**Software Developer – Environmental Development Project** *August 2023 – August 2024*

- Developed an application component that generates 3D gravity grid generations (gradiometric modeling) layered on top of watershed boundaries to potentially **identify mercury poisoning** within bodies of water
- Worked with technologies such as **QGIS** and **MATLAB** to implement gravity inversion and mesh generation algorithms
- Leveraged PhD research on gravity gradiometric processing and peer-reviewed journals on model-regularization 3D inversion
- Coordinated team reviews with at least 10 team members and discussions with geophysics and seismology experts

**Spoken Languages:** English, Chinese Mandarin, Proficient Japanese
**Interests:** Chess, Snowboarding, Fitness, Language Learning, Classical Piano, Basketball