

# SAMYUEL POKHAREL

Cybersecurity - Networking - Systems Infrastructure

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Computer Science graduate focused on cybersecurity, networking, systems infrastructure, and technical troubleshooting. Hands-on experience building secure self-hosted infrastructure, developing network diagnostics tooling, and working with Linux-based environments, virtualization, reverse proxies, and cloud-connected services. Strong interest in cybersecurity operations, systems engineering, networking, and infrastructure support.

## Education

### California State University Channel Islands

Aug 2024 - May 2026

M.S. Computer Science

Minor: Cloud Computing, Ethical Hacking, Advanced Database Systems, Security, Artificial Intelligence

### Islington College

Sep 2023

B.Sc. (Hons) Computer Networking & IT Security

GPA: First Class Honors (77.61%)

## Projects

### Network Troubleshooter

- Built a Rust-based network diagnostics platform with a Tauri desktop interface
- Implemented guided scans, full scans, and targeted diagnostics for DNS, latency, ports, and connectivity issues
- Designed modular architecture to support extensible troubleshooting features
- Focused on practical debugging workflows and real-world infrastructure troubleshooting

### Homelab Infrastructure

- Built and managed a self-hosted homelab environment using Proxmox virtualization
- Configured reverse proxy infrastructure using Nginx Proxy Manager and Caddy
- Implemented Cloudflare DNS integration with HTTPS-secured external access
- Managed SSL certificates with Let's Encrypt auto-renewal
- Deployed and maintained internal self-hosted services

### Cryptographic Security for CAN Bus Communication

- Simulated CAN Bus communication to evaluate encryption performance in embedded systems
- Benchmarked AES and XOR implementations to analyze latency and error-rate tradeoffs
- Evaluated lightweight encryption feasibility for resource-constrained environments

### DHCP Starvation Attack Simulation

- Developed a Python Scapy script to simulate DHCP starvation attacks in a controlled lab environment
- Demonstrated denial-of-service behavior using spoofed MAC addresses
- Proposed defensive mitigations through secure DHCP configuration and monitoring

## Work Experience

### IT Support & Quality Assurance Intern

Aug 2022 - Dec 2022

*Danfe Solutions Pvt. Ltd.*

- Diagnosed and resolved client network and software issues
- Performed QA testing and identified more than 30 software bugs
- Collaborated with developers to document and resolve technical problems
- Assisted with troubleshooting workflows and system reliability improvements

## Core Skills

**Languages:** Python, Rust, SQL, Bash

**Networking & Security:** Routing & Switching, DNS & DHCP, Vulnerability Assessment, Network Diagnostics, Cryptography Fundamentals, GNS3, Kali Linux

**Infrastructure & Systems:** Linux Administration, Docker, Proxmox Virtualization, Nginx Proxy Manager, Cloudflare DNS, HTTPS / SSL Configuration, VMware, Git, AWS Fundamentals

**Concepts:** System Troubleshooting, Infrastructure Debugging, Reverse Proxying, Virtualization, Secure Service Exposure, Technical Documentation, Quality Assurance

## Certificates

### Technical Support Fundamentals

*Google*

### The Bits and Bytes of Computer Networking

*Google*

## Interests

cybersecurity operations, systems engineering, networking, infrastructure support