

# Manju Kuah

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## ORTSOC Infrastructure

Senior capstone project to design infrastructure for the Oregon Research & Teaching Security Operations Center (ORTSOC), a student-staffed Security Operations Center (SOC) designed to vocationally teach students how a SOC works and how to be a security analyst. Provides security operations for small organizations that may not be able to afford the services of a well-known or established SOC. This infrastructure exclusively uses zero-cost software (Zeek, Elasticstash, Ansible) to keep the operating costs of the ORTSOC at a minimum for the clients.

## SKILLS

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### Programming

- 4 years C, C++
- 4 years Python,
- 4 years x86 Assembly
- 4 years HTML/CSS/JavaScript
- \*sh, PowerShell
- Git
- Linux/Windows/Mac/Android
- YAML

### Security

- Malware Analysis
  - IDA Pro/Hex-rays Decompiler, gdb
- Binary Exploitation
  - pwntools
- Network Security
  - Zeek, Wireshark
- Log Management
  - Elasticsearch, Logstash
- Automation
  - Ansible

## EDUCATION

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### Oregon State University

**Estimated Graduation Date: June, 2022**

*Degree: Bachelor of Science, Major: Computer Science, Cybersecurity*

*Corvallis, OR*

Key Computer Science courses:

- **Network Security**
    - In-depth research on Buffer Overflow Attacks, Public key infrastructure, IPSec
    - Built a two-factor authentication application. Generates a Time-Based One Time Password (TOTP) as a QR code that is readable by Google Authenticator.
  - **Operating Systems I,II**
    - Built JOS, an educational OS based on linux architecture. Professionally debug using GDB.
  - **Analysis of Algorithms**
    - In-depth analysis of algorithms, programmed various algorithms with efficient runtimes. (Python)
  - **Architecture and Assembly Language**
    - Programmed a rhythm clicking game entirely in x86 assembly language.
  - **Cryptography**
    - pseudorandom generators, block ciphers, hash functions, etc.
  - **Computer Networks**
    - Network principles, concepts, in-depth internet protocols.
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