Simon Shrestha

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EDUCATION

Bachelor of Science, Computer Science — *Jan 2017 - May 2021*
Truman State University — GPA: 3.02 (major gpa)

SKILLS

Web development: html, css, javascript(React, nodejs, Express), Postman
Database: mongodb, mysql
Programming and software development: C, C++, C#, Java, Python, Assembly(MIPS), clojure, git
OS and Virtualization: linux, windows, android, proxmox, virtualbox, docker
Networking: wireshark, nmap, burpsuite, pfsense, IDS/IPS, metasploit, VLAN
Documentation: latex, word, powerpoint

PROJECTS

Home lab network
- Designed a small network for homelab in a virtual environment.
- Hypervisor(proxmox) was used to virtualize different machines with different OS.
- the network had internet acess via a router running pfsense.
- Vulnuerable machines such as metasploitable and dvwa were used as victim machines.
- Kali linux was used as attacking machine to practice penetration testing.

Full-stack web app development
Built a full stack web app using MERN stack implementing RESTful api:
- React framework was used for building and designing fclient-side using jsx and css.
- Express framework in nodejs for developing server-side and provides api to the frontend.
- Mongodb atlas as a database to store information.

High-availability cluster prototype
Designed and implemented high availability cluster in server-client and peer-to-peer network to recover failed nodes :
- Java programming language was used to develop the project.
- heartbeat protocol was implemented to detect failed nodes.
- In case of server failure, appropriate node will be assigned as a new server.

Neighbour Joining (Phylogenetic Tree generator)
Developed a program to generate phylogenetic tree.
- python language was used to develop the program.
- implemented dynamic programming for string alignment in various dna sequence operations.
- finds the genetic difference between the provided dna sequences with configurable scoring parameters.
- The phylogenetic tree is calculated using Neighbour-Joining algorithm.

Relevant Coursework

- Data Structures and Algorithms
- Object-Oriented Programming
- Systems Programming
- Computer Database
- Computer Security Fundamentals
- Bioinformatics
- Software Engineering
- Programming Languages
- Cyberethics