ATHEESH THIRUMALAIRAJAN

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OBJECTIVE

Leverage my proficiency in Software Development and Computer Networking to engage in innovation with a world-leading organization, focusing on creating meaningful contributions to our global community. Committed to continuous growth and learning, I seek to collaborate with talented peers in a dynamic work environment.

SKILLS

Computer Networking

- **Cisco Certified Network Associate (CCNA)**, Certified on August 03, 2023
- Thoroughly understand **core Networking Concepts** — Routing and Switching, QoS, IPv4 and IPv6, NAT Configuration, Security, OSPF/EIGRP, VLANs, Wireless Networks, TCP/IP Stack, Ethernet Standards, etc. Previously **designed and deployed Wireless and Wired Networks with ~30 Clients**.
- Experienced in deploying **OpenVPN, DNS and DHCP Servers** (using `dnsmasq`), NTP Servers and Configuring Routers and Firewalls to aid **controlled access** to the network via a VPN.

Computer Programming

- **Rust**: Understand **Core Concepts** and Async frameworks like **Tokio**. A notable project involves a VNC Server (Remote Framebuffer Protocol) written from scratch.
- **Java**: Understand **Core OOP Concepts**. Experienced in developing Java Console and Java Swing Applications. Created a proprietary Windows Elevation Provider.
- **JavaScript**: Experienced in developing and deploying **MERN Stacks**, Proficient in NodeJS, MongoDB, Electron and the ReactJS Framework. Notable Projects involve an **Android app** for Veyon, a **Classroom Management Platform** with Assignments, Tests, Notes and a Live-class platform with a Live Chat and a Collaborative Canvas.

System Administration

- **Windows**: Advanced Knowledge in Configuring Windows versions XP through 11. Experienced with Group Policies, Windows Registry, Firewall, Services, Disk Management and other Administrative Features.
- **Linux (Ubuntu Server and Desktop)**: Familiar with most Shell Commands, Permissions, Users and Groups, Package Managers, Netplan, etc. Experienced in Installing and Configuring Ubuntu Server to application needs.
- Experienced in **Installing and Configuring apache2** to application requirements. Deployed Reverse Proxies, Load Balancing, SSL and more.
- Experienced with **deploying and configuring a simple Docker Environment** on Linux (Docker CLI and Portainer). Managed 10+ containers in a personal environment. Built projects and created their images using Dockerfile.

OPEN-SOURCE PROJECTS

- **SpifyRFB**, A VNC (**Remote Desktop**) Server written from scratch with **Rust**. Interacts directly with **X11** and **Win32 (GDI, Services, Remote Desktop)** APIs, Supports TCP, WebSocket. Runs as a service for **persistent** connection during Logon Screens and UAC Prompts. Supports **concurrent RDP** and console sessions.
- **GitHub** - Published 20+ Repositories, awarded '**Starstruck**' and '**Pullshark**' badges. Published **two android apps** on Amazon Appstore
- **Fixed Bugs** – Fixed OpenProject's `docker-compose.yml` to support deployment using the **Portainer** container management interface. Fixed Veyon's API to ignore case-sensitivity in HTTP Headers for API usability in NodeJS.
- **Created Ordne**, a simple Pomodoro Timer with a reach of 8,000+ Twitter Views
- **Created Monitoring Center**, An Android client for the Veyon Classroom Platform
- **Feature Enhancements** – Added "**Dynamic FlatHub Links**", a convenience feature, to elementaryOS AppCenter. Pushed to Global Major Release with Pull Request #1780. Improved LDAP Auth (**LdapJS**) in Shinobi (Software-based NVR).
- **Beta Testing** – One of the Initial Testers of elementary OS 6 (Odin), identified and reported 15+ bugs. Discovered a highly debated bug on elementary Gala, with 35+ comments, reported as Issue #1126 on GitHub.

EDUCATION

University of Maryland, College Park
BS in Computer Engineering
(2023 – 2027)

Ryan International School, India
High School

CERTIFICATIONS

Cisco Certified Network Associate
CSCO14419669 • Verify Certification

KEY SKILLS

Computer Programming

- JavaScript (React, Node, Electron)
- Java (Console and Swing)
- Rust (Core Concepts)
- C++
- Vala

Computer Networking

- Routing Protocols, QoS, IPv4, IPv6
- Ethernet Standards, NAT Config.
- VLANs, STP, Wireless LANs
- Basic Cisco SDN and VRF

System Administration

- Proxmox, ZFS, RAID, Dell PowerEdge Server Configuration, iDRAC9
- VirtualBox, Docker Containerization
- Samba-based and Windows-based Active Directory Services
- Apache Web Servers, BackupPC, Mailcow

SOCIAL

- LinkedIn (@atheesht)
- GitHub (@candiedoperation)
- StackOverflow – Reached **~22000 People** with 60+ Answers, 20+ Badges and 700+ Reputation. Privileged to Upvote, Flag, Review Questions and Answers on the Platform.

VISA STATUS

Authorized to work in the US,
Visa sponsorship NOT required,
Employment Authorization Document Issued.

EXPERIENCE

January 22, 2024 – Present
Junior Engineer • Children's National Hospital, Washington, D.C.

- Selected by the University of Maryland's AppDev Club as one among the **top 10 people out of the 300+ applicants**.
- Part of a team that uses **Machine Learning** libraries like MediaPipe and MobileNetV2 to quantify cervical range of motion for children with injuries like neck and spinal issues.
- I **lead the DevOps sub-team** that decides the Tech Stack, designs and deploys the front-end (ReactJS) and the back-end (NodeJS), models databases (MongoDB), implements video live-streaming (NodeJS MediaSoup Library) and containerization (Docker) for successful deployment.

October 12, 2020 – April 17, 2021
Information Systems Intern • Office of R. Ramalingam, Chartered Accountant

- Optimized compute, storage, and uptime using **VirtualBox Virtual Machines**.
- Deployed a BackupPC based **Centralized Backup Solution** on Ubuntu (Linux) to prevent Data loss.
- Equipped the Organization for secure Work from Home by deploying **VPN Servers based on OpenVPN** (Linux).
- Helped employees install legitimate apps creating **a Java App which elevates the user based on an instant approval request** sent to the System Administrator.

August 10, 2021 – November 12, 2021
Software Systems Intern • Veeyes Foundry Private Limited

- Created an **Android App** that helped employees instantly transfer documents scanned using their phone without traditional methods like Email and USB File-transfer. Part of a **custom Cloud Print like solution** using JavaScript.
- Deployed services like **NextCloud and Bitwarden as Docker Containers** on a Linux Server to help employees store, share files easily and save passwords safely to a vault.
- Enforced security and configured uniform organization-wide **group policies** by deploying a **Samba based Active Directory** Server.

OTHER PERSONAL PROJECTS

- **Developed my Profile page** and deployed it at https://about.atheesh.org. Created from scratch using ReactJS and the Material UI library. Hosted using GitHub Pages with public CNAME entries.
- **Created Spify**, a **Classroom Monitoring app** that uses the previously developed SpifyRFB Server to list displays of all Console and RDP sessions to computers in schools. Uses a Web Client written with **React, NodeJS**. Uses the **MongoDB** database.
- **Created Fliger**, an **electron-based**, open-source launcher for Linux. Features a Blazing-fast Search, Realtime file preview, App Launcher, Math, Unit Conversion and other addons, all in a single search bar. Currently under development.
- Published **Monitoring Center**, an Android App for Veyon and **Status Center**, a Telnet based Service status monitor to the Amazon App Store. Developed using React Native, compiled for Android. Both are Open Source.
- **Created Floww** – a **proprietary Classroom Management platform** that supports Assignments, Tests, Notes and a Live-class platform with a Live Chat and a **Collaborative Canvas**.

LEADERSHIP

- **Autonomous Rover Project** – I lead an 8-member team as a part of an Engineering Design course at the **University of Maryland** to create components and software for an **autonomous rover** that navigates obstacles and completes missions in an assigned arena.
- **VFX and Media Production Leader** – I led and mentored an 8-member team to stage the first-ever 3D Mapping dance. The performance was a huge success and 2000+ people experienced it on Graduation Day at school.
- **School Media Leader** – I led an 11-member team which **won best country profile award** among 100+ participating schools in the Indian Model United Nations (INMUN).

SELF-HOSTING

- **Modified Shinobi**, a Software based NVR, to support LDAP Authentication. Improved Look and Feel. Eliminated costs by deploying the solution to monitor and record 10 CCTVs at home.
- **Deployed a Samba based Active Directory** server for LDAP Authentication to help my family use the same login credentials across 20+ internally used services.
- **Deployed NextCloud** to help my family access photos as old as 15 years from across all devices. Thereby, eliminating storage quotas and privacy concerns of Cloud storage providers.
- **Deployed** `dnsmasq` based DNS-server with Intranet entries to facilitate access to internal services via domain names instead of IP Addresses.

RESEARCH

- Selected by the University of Maryland to be a part of the **First-Year Innovation and Research Experience** (FIRE) program. As a part of the Computing and Society stream, our team gathers data and analyzes it using methods like multiple regression, factor analyses and **programming using the R language**. Based on our analysis we publish answers to a research question.

CLUBS AND HACKATHONS

- **Member of the AppDev Club and the Cybersecurity Club at the University of Maryland**
- **HopHacks 2023 (Johns Hopkins University)**: Created a WebApp for volunteers. Using Google's Earth Engine APIs, we acquired datasets of historical weather, vegetation, population density, etc. To predict quality of life and volunteer requirements, we ran computer vision algorithms on acquired satellite imagery. Predicts people in need without government census information.