Wajahat Razi

Network Programming | Software Defined Networks | Cloud Datacenter Networks | SONiC

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- Research-driven engineer, with an aptitude for GenAI, Cutting-edge technology and software development
- Skilled at tackling complex software challenges, making valuable contributions for both team & management
- Creative individual, with a notable 3+ years of experience in large scale SysOps, DatacenterOps, and specifically contributing to an open-source switch software (Network Operating System) SONiC
- I bring a hybrid of Solutions Design, Software Development, Cloud, and hardware.
- My communication and presentation skills enable me to interact effectively within cross-functional teams.

Skillset

Languages:	C++, Python, Bash
Technologies:	SONiC, Docker, Kubernetes, Redis, Linux Ubuntu, Git, GitHub Actions, Server Management, Hypervisors
Platforms:	GNS3, Cisco Packet Tracer, NVIDIA Air, Dell iDRAC, VMWare ESXi, AWS EC2, AWS VPC
Generative AI:	Langchain, OpenAI, Gemini, Vector Database, RAG, Indexing, Prompt Engineering
Networks:	TCP/IP, OSI, Software Defined Networks, SDN Controller, Infrastructure Disaggregation, Routing & Switching HTTP(s)/SFTP/SSH/TELNET/SCP, VPN, APIs, VM/Container networking, Bare-Metal networking, Packet Broker
Concepts:	OOP, Sockets, Operating System, Virtualization, Containerization, Distributed Systems (microservices), APIs Feature Integration, Open-source software development, SDLC, Cloud Service Models, Infrastructure Provisioning SLA Compliance, High/Low-Level Design, Test Plans, Stakeholder Management, Technical Customer Support
Soft Skills:	Love sharing knowledge, Assignment ownership, Can-do, Open to change

Accomplishments

- **Won AI competition** at xFlow Research Inc, developing a RAG solution that automates fetching CLI for SONiC Engineers
- Participated & nominated in the **SONiC Hackathon 2024** "**Most Innovative Award**" category with a successful RAG-based AI application called **SONiC Scout AI**, competing with Broadcom, Dell, Arista & Marvell.
- Honored to have authored **technical publications** under the **Linux Foundation** for **SONiC**, being **appreciated globally** by subject matter experts for their relevance & technicality
  - sonicfoundation.dev/demystifying-sonic-its-importance-in-modern-data-centers/
  - sonicfoundation.dev/deep-dive-into-sonic-architecture-design/
  - sonicfoundation.dev/becoming-a-contributor-to-sonic/
- Honored to have been **awarded** a **100% LiFT scholarship** in the Cloud Captain category for Kubernetes, reflecting my interest in open-source initiatives.
- Experienced **Mathematics** & **Physics** tutor with results achieved track record

Experience

xFlow Research Inc

Technical Lead - SONiC Senior Engineer | 07/2023 - Present

- **Led** designing & implementing **SONiC-based products.**
- Designed & developed **RAG-based AI** applications trained on custom data for the SONiC Hackathon 2024 & SONiC community hosted under the Linux Foundation.
- Led a customer project, deploying an **Intent-based Fabric Orchestrator** using virtual machines, GNS3, and physical test beds for SONiC, **achieving customer satisfaction** from the start till delivery.
- Designed & contributed the **Multiple Spanning Tree Protocol** datacenter feature in SONiC in collaboration with **Broadcom**
- Supported team in **VLAN Enhancement** & **Memory Statistics** features
- Reviewed **code PRs** for notable collaborators & colleagues to ensure well-structured code is pushed
- Deployed **Virtual Machines**, and SONiC **switches**, along with **NOS** & **OS installations** with **servers** & **switches** respectively.
- Worked on **open-source SDN controllers**
- Deployed **SONiC network topologies** in data center servers using **VMWare** and **KVM** virtualization platforms
- Tested **L2 & L3 protocol features** in SONiC utilizing open-source **GNS3** and **physical** testbeds
- Developed a tool to **automate SONiC's feature** testing using **Ansible**
- Leveraged Microsoft **Azure CI/CD** pipelines to **build SONiC** images
- Set up **independent in-house Azure** & **GitHub Actions CI/CD Pipelines**
- **Troubleshoot** and **resolve issues** during integrations & software changes
- Developed **CLI** using **Python's Click** library for SONiC configurations
- Utilized **Docker** containers to package software components
- Enhanced the **SONiC's microservices Architecture** for a better understanding of the colleagues & community.
- Developed an **introductory course** on SONiC
- Delivered **internal talks**, and **story-telling** presentations.
- Created **technical documentation:** SoW - PoC - PRD - URD

Coca-Cola Beverages Pakistan Limited (CCI) (Contractor: Inbox Biz Technologies)
Resident Engineer | 01/2023 - 07/2023
- Supervised **system automation** and **network installation** projects on production lines, warehouse & dispatch areas.
- Managed both **data center** & **system operations**, including **L1**, **L2, and L3** deployments & configurations, including End-of-Life replacements.
- Achieved **99%** data center network **uptime** meeting **SLA** compliance.
- Performed fast-paced **troubleshooting**, and documented **solutions** to prevent recurrence.
- Collaborated with **Turkish** teams and supported **500+** users with different access devices in **OS** installations, Network errors, & IT support, earning appreciation for efficient issue resolutions
- Coordinated with Vendors: **Jazz**, and **Wateen**, to resolve top-tier technical issues.

Orange Line Metro Rail Transit Service (Contractor: InfoTech Pvt Ltd)
Field Engineer | 01/2022 - 08/2022
Technical Team Lead | 09/2020 - 05/2021
- Played a **pivotal L2 role** in the successful deployment of an **Automated Fare Collection System across 26 stations**, managing the operation of servers, switches, and **400+** critical devices.
- Earned appreciation for achieving **24/7** strict **SLA** Compliance, as I developed **standard operating procedures** for reliability & effective resolution to technical issues.
- Collaborated closely with **Chinese** teams and third-party contractors to brace **0.15 - 0.25 million** daily ridership.
- Managed **Network system operations**, such that there was complete data collection for accurate reports critical for business.
- Leverage **Linux** to push OS in devices upon failure and system upgrades.
- Conducted **training** sessions for recruits and operational staff every **30** days.
- **Documented** operational solutions to avoid repeated issues, to contribute towards long-term system stability.

Education

BS Electrical Engineering | National University of Computer & Emerging Sciences (FAST - Islamabad)
- Final Year Project: **Functional** (Both HW & SW) **IoT**-based **Energy Forecasting Meter** using **Arduino**, **Android** Studio, **JSON**, **C/C**++, and **Java**
- **Teacher Assistant:** Physics, Programming Fundamentals, Data Structures & Complex Variables Transform

Certified Kubernetes Administrator | Linux Foundation | Enrolled

Exploring AWS
- Deployed containerized WordPress & PHP-Apache Servers on AWS EC2.
- Deployed a Client-server application on an AWS EC2 instance
- Set up GitHub Actions CI/CD workflow for the repository that triggers upon the push and updates the EC2 instances
- Set up node-exporter using Prometheus & Grafana.
- Provisioned EC2 server infrastructure using Terraform

Hobbies

- Skilled musician (Drums & Guitars)
- Portrait sketching artist
- Former mid-field football player

Volunteer

- Volunteer to arrange blood donors for those in urgent need and help save lives.
- Volunteer in running food drives.

Languages

- English (Professional)
- Spanish (Basic - Learning)