

# Wajahat Razi

Network Software Engineer | Cloud Network Engineer | SONiC Engineer

+92 324 4677444 | wajahat37@gmail.com | LinkedIn: wajahatrazimalik77 | GitHub: wajahatrazi

- As a research-driven **engineer** with an aptitude for **technology** and **software**, I intend to make **valuable contributions** by solving **complex software riddles** within the Cloud Networks domain.
- A **creative** individual having **3+** years of notable experience in **SysOps**, **DatacenterOps**, and contributing to an **open-source switch software (NOS) 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

<b>Languages:</b>	C++, Python, Bash
<b>Technologies:</b>	SONiC, Docker, Kubernetes, Redis, Linux Ubuntu, Git, GitHub Actions, Server Management, Hypervisors
<b>Platforms:</b>	GNS3, Cisco Packet Tracer, NVIDIA Air, Dell iDRAC, VMWare ESXi, AWS EC2, AWS VPC
<b>Generative AI:</b>	Langchain, OpenAI, Gemini, Vector Database, RAG, Indexing, Prompt Engineering
<b>Networks:</b>	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
<b>Concepts:</b>	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
<b>Soft Skills:</b>	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 **03 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/](https://sonicfoundation.dev/demystifying-sonic-its-importance-in-modern-data-centers/)
  - [sonicfoundation.dev/deep-dive-into-sonic-architecture-design/](https://sonicfoundation.dev/deep-dive-into-sonic-architecture-design/)
  - [sonicfoundation.dev/becoming-a-contributor-to-sonic/](https://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

SONiC Network Design Engineer II | 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

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**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

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

## Volunteer

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

## Languages

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