

Siddesh Vilas Pawar

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Connectivity and Network Infrastructure Engineer with 6+ years of experience in large-scale network operations, data center environments, and vendor management. Proven track record in executing complex project lifecycles, optimizing network performance, and managing multi-vendor hardware deployments. Proven track record of enhancing network performance and securing enterprise environments, with experience in UNIX, TCP/IP, network fundamental accompanied with python, holding Msc in Cybersecurity with a technical focus on digital forensics, ethical hacking and penetration testing. Working with IETF on post-quantum cryptographic algorithms approved by NIST.

Education

University of Surrey, MSc in Cyber Security

February 2025- January 2026

K.J. Somaiya college of Engineering, B.Tech in Electronics and Telecommunications

June 2014 - June 2018

Work experience

Cybersecurity Part-Time engineer (Infrastructure Setup) | Londis, UK

February 2025 – present

- Developed a custom Asset Risk Management **web application** using **React** and **Firestore** (deployed via GitHub) to automate risk calculations and digitalize **asset tracking**.
- Managing data protection standards across store operations and digital transaction systems.
- Establishing GDPR compliance frameworks and implementing security protocols for the site's IT infrastructure.

Tata Consultancy Services, System admin

May 2022 – January 2025

- Configured and managed **multi-vendor network devices** (Cisco, Aruba, Meraki), specifically resolving high-latency issues to optimize **IPTV streaming performance** and overall network throughput.
- Managed IPAM/DNS/DHCP using **Infoblox**, URL filtering, IP allocation, maintenance of critical DNS records (MX, A, CNAME).
- Monitored, configured, and troubleshot **Meraki** devices and **VMware SD-WAN (VeloCloud)** Edge devices.
- Specialized in authentication issues, configuring ClearPass, and planning upgrade and testing activities.
- Managed a complex security estate including **Checkpoint**, **Cisco ASA**, **Cisco ACI**, and **Cisco Secure Workload (CSW)**. Maintained secure **DMVPN** connections for site-to-site communication.
- Configured **F5 Load Balancers** to ensure application high availability and performed traffic analysis to identify bottlenecks, carried out Failover activity addressed the TTL configuration issues on domain names.
- Utilized monitoring tools such as **SolarWinds**, **watchdog** and **ServiceNow** for issue tracking and resolution.
- Implemented **Infrastructure as Code (IaC)** by utilizing **GitLab** CI/CD pipelines to deploy and manage firewall rules within **Google Cloud Platform (GCP)** environments.
- Led technical presentations in **Change Advisory Board (CAB)** meetings, justifying risk assessments to secure approvals for critical infrastructure changes, and successfully gain highest success rate.
- Conducted research and simulations on Post-Quantum Cryptography (PQC) algorithms using **Qiskit SDK** (Terra, Aer) to assess future network encryption standards.

CSS CORP PVT LTD (now MOVATE), Technical Advance Consultant - Network Engineer

February 2021 – April 2022

- Provided network solutions for users with Aruba ClearPass products on-premises or on-cloud, ClearPass deployment as a **cluster**.
- Served as the L3 Escalation Point for AAA issues; utilized **Access Tracker** and **Policy Simulation** tools to reduce mean-time-to-resolution (MTTR) for complex authentication failures by 40%.
- Designed a **self-registration Guest Captive Portal** with **SMS gateway integration**, automating access for 500+ daily visitors while maintaining audit logs for compliance.
- Managed the lifecycle of **HP ProLiant servers** and **VMware ESXi hosts**, performing firmware upgrades via **iLO**, replacing faulty hardware (RAID controllers, memory), and resolving **Purple Screen of Death (PSOD)** incidents to minimize downtime.
- Integrated **Microsoft Intune** extensions to enforce endpoint compliance (Posturing) and connected ClearPass with multi-vendor NAS devices (Aruba Controllers, Cisco Switches) and **Hybrid Active Directory** environments.
- Managed the internal Public Key Infrastructure (PKI) using **AD CS**, handling the generation, installation, and renewal of **EAP-TLS certificates** across the ClearPass estate.
- Utilized Jira for tracking bug registrations, incident reporting, and documenting resolution procedures.

Unique Enterprise @Mumbai International Airport Ltd, Network Engineer

August 2019 – February 2021

- Secured the **GVK-MIAL** airport network perimeter by configuring and managing next-gen firewalls (**Checkpoint**, **FortiGate**, **Palo Alto**), actively blocking malicious IPs and enforcing strict blacklisting policies to prevent cyber threats.
- Operated as a Layer 1 Security Analyst, conducting daily **spam mail analysis**, monitoring USB mass-storage access violations, and performing port-blocking audits to ensure compliance with aviation security standards.
- Monitored critical links (ILL/MPLS) and managed Vendor Service Level Agreements (SLAs) with ISPs (**Tata**, **Airtel**, **MTNL**), raising Trouble Tickets (TT) and driving rapid resolution for outages to maintain 24/7 airport operations.
- Managed a complex, heterogeneous network environment comprising **Cisco**, **Juniper (EX/MX)**, **Nortel**, **Avaya**, and **Allied Telesis** devices. Utilized **Juniper Junos Space** and **Contrail** for centralized network management and automation.

Orient Technology

October 2018 – August 2019

- Implemented Static IP subnet allocation for **SMB services** and **VLANs on L2 switches**.
- Developed troubleshooting skills for resolving issues in complex wireless network environments on **IEEE 802.11** standards.
- Implemented OTP verification for customer secured login and DHCP option 82 for auto-login features.
- Resolved high latency issues in gaming through comparative analysis among different device

Projects

- Automated configuration of OSPF on routers using Netmiko, Paramiko module of Python.
- Designed a Python script to monitor network interfaces using SNMP and send alerts to the administrator.
- Developed Python scripts for taking configuration backups of network devices using TFTP processes.
- Successfully **migrated Juniper SRX3600** to Palo Alto as an internal firewall.
- Actively participating in the IETF workgroup on MPLS over IP Data packets, PQC migration for EU.
- Worked on **Digital Forensics**: Autopsy, Volatility Framework (Memory), Wireshark (Network), FTK Imager, SANS SIFT Workstation, zsteg.
- Developed a **Python-based Hybrid Encryption tool** integrating **FIPS 203 (ML-KEM/Kyber)** algorithms via the **Open Quantum Safe (liboqs)** library to demonstrate quantum-resistant secure file transfer methodologies

Skills

Technical Skills:

- **Programming Languages**: C/C++, Python, JavaScript, CSS, HTML, Django, GIT & GITHUB.
- **Networking Technology**: CCNA R&S, JNCIA (JUNOS), MPLS, BGP, OSPF, VRRF, VPN, RSTP, ISIS.
- **Security Technology**: IBM QRadar, Skyatp (Juniper), Fortigate(NSE1, NS2), Juniper Junos, checkpoint, cisco CSW (Tetration), cisco secure firewall, cisco ISE.
- **Networking Tools**: Amazon SANDBOX, GNS3, VMware Workstation, Pycharm, PTRG Network Monitoring.
- **Network Solution**: Aruba CPPM, Microsoft AD, Aruba controller, Azure Intune, LinkProof NG Radware LB.
- **Cloud Technology**: Amazon AWS, Microsoft Azure.
- Lifecycle Management, Change Advisory Board (CAB), SLA/Vendor Management.
- Infrastructure: Structured Cabling, Data Center Operations, Network Design, Rack/Stack/Power.
- **PQC TOOLS**: Qiskit SDK

Appreciations

- Successfully received a letter of appreciation for network automation from GVK-Mumbai International Airport
- Received a letter of appreciation from Makermela for the "Engistat AR app" project.
- Experience investigating network-based data for anomalies at Mumbai Airport.

Achievements

- Winner of RC Nitro competitions pan India, including IIT Bombay Techfest and IIT Roorkee.
- Successfully organized IIT Bombay Technical event named "International Full-throttle Event 2019-20".

Certification

- **ISC2 Certified in Cybersecurity (CC)** Certificate number: 2699643 Jul 1, 2025 - Jun 30, 2028
- Juniper Networks Certified Associate - Junos (JNCIA-Junos) from juniper learnings – (skills: networking)
- Fortinet : NSE 1, 2.
- IBM QRadar SIEM Foundation issued by IBM- <https://www.credly.com/badges/85d585b0-124b-4599-8e94-e977e5e1d00d>

Extra-Curricular

Deloitte Australia Technology Job Simulation on Forage - October 2023:

- Completed a job simulation involving data analysis for Deloitte's Technology team, created a data dashboard using Tableau.
- Wrote a proposal for a client project to create a functioning dashboard, used Excel for data classification, and drew business conclusions.

RC NITRO RACING:

- Travelled to Indian institutes that organized various technical events and have participated and won multiple RC nitro car racing awards, like IIT BOMBAY TECHFEST, IIT CHENNAI

Dissertation

Design and Evaluation of StrongVPN: A Pure Post-Quantum VPN Architecture *Submitted to University of Surrey*

- Designed a full VPN architecture leveraging lattice-based key encapsulation mechanisms (ML-DSA AND ML-KEM) and reduction optimizations for post-quantum performance.
- Designed and evaluated the StrongVPN protocol stack more focused on resilience against quantum-capable adversaries, cryptographic agility, and performance under constrained environments, also deployed using EC2 multi regional instances. (evaluation against VPN standards IPsec/OpenVPN/WireGuard).
- Conducted benchmarking of PQC primitives, network performance analysis, and comparative evaluation against classical VPN protocols.

Publication

Siddesh Vilas Pawar, Liqun Chen. "Design and Evaluation of StrongVPN, a Pure Post-Quantum VPN Architecture." *TechRxiv*, November 18, 2025.

DOI: [10.36227/techrxiv.176127352.21222483/v2](https://doi.org/10.36227/techrxiv.176127352.21222483/v2)

Siddesh Vilas Pawar. "The Definitive Cryptanalysis of RSA: 55 Attack Vectors, Complete Mathematical Proofs, Tool Ecosystem, and Security Boundaries." *TechRxiv*. January 14, 2026.

DOI: [10.36227/techrxiv.176836577.74239211/v1](https://doi.org/10.36227/techrxiv.176836577.74239211/v1)