Mohammad Shikha

IT Operations | Embedded Programmer | BSc. (Hons) in Physics

Motivated IT Support Engineer dedicated to optimising IT infrastructure and leveraging technology to improve market competitiveness for customer-facing businesses. Currently focused on embedded IoT devices, cloud computing, and Bitcoin to enhance analytics, data processing, and financial resilience.

mohammadshikha@gmail.com | GitHub : owen97779 | My LinkedIn

Skills

`Zendesk` | `Google Workspace` | `Office 365` | `OPNsense` | `Network Design` | `Network Protocols` | `VPN` | `IP Camera and NVR Setup` | `Unifi Devices` | `Nginx` | `Cloudflare` | `Proxmox` | `Linux` | `Containers` | `Docker` | `ZFS` | `C` | `Python` | `Git` | `CI/CD` | `KiCad`

Education

`SEP 2019 — JUN 2022` | **BSc. (Hons) Physics** Upper Second Class | **King's College London**

`SEP 2012 — JUN 2019` | **A Levels | GCSEs** | **Harris Academy St John's Wood, London**

Employment

Pachamama Group | `IT Consultant` | `Full-Time` | `Feb 2023 — PRESENT`

Network Construction in 3 London Restaurant Sites:
- Network built with WAN failover, using OPNsense firewall, Unifi WAPs, switches and UPSes.
- Networks optimised for staff, guest, EPOS and IP CCTV devices, using NAT, subnets, VLANs and routing rules.
- Site-to-site connectivity using Tailscale.

Documentation and Project Management
- Jira work management to execute projects under supervision, along with LaTex documentation.

Proxmox Server Deployment
- Rack-mounted Proxmox server created using ZFS pools and Rclone syncs to off-site cloud buckets.
- Multiple VMs and containers for linux servers, company applications and scripts.

Cloudflare CDN and Web Security
- Tunnels, zero-trust security model and DDoS protection implemented.

Pachamama Group | `IT Helpdesk` | `Part-Time` | `JUN 2018 — JUL 2022` | `Full-Time` | `JUL 2022 — Feb 2023`

Helpdesk & Technical Support
- Provided user support and generated reports using Zendesk.
- Diagnosed and resolved hardware and software issues reported by users.

IT Equipment Inventory Management
- Oversaw hardware inventory and software license upkeep. Installation and management of EPOS devices.

Projects

Bitcoin Lightning Network Node | `Project` | `SEP 2023 — PRESENT`

- **Project Overview:** Currently operating a Bitcoin Lightning Network Node to facilitate faster and cost-effective Bitcoin transactions.
- **Key Achievements:**
  - Active relations with node peers, allowing competitive pricing based on market demands.
  - Manual node management, providing understanding of technology to enable future automation and maintenance.

Pachamama Network Telegram Bot | `Project` | `JUN 2023`

- **Project Overview:** Created a Python-based asynchronous bot utilising the Telegram API to centralise network-related notifications, including restaurant internet uptime and CCTV user logins.

- **Key Achievements:**

  - Developed the bot with CI/CD integration, automating the release process and deployment using Github runners and a Docker container.
  - Implemented subscription system, used by 10+ staff.

GPS Project | `Project` | `SEP 2021 – PRESENT`

- **Project Overview:** Engineer of an open-source IoT-enabled GPS platform for consumers, funded through the King's Student Opportunity Fund.

- **Key Achievements:**

  - Bare-metal and arduino embedded programming with microcontrollers such as the ESP-32 along with PCB design.
  - IoT integration utilising radio technologies such as WiFi, LTE-M and NB-IoT. Communication protocols such as MQTT and CoAP experimented with.

Relevant University Coursework & Courses

VR Solar-System Grand Tour | 2022
  - Numerical modelling of Voyager 2 using Unity and C# with VR control.
  - The project findings were evaluated in a scientific paper.

Experimental Physics | 2021
  - Conducted physics experiments and lab reports emphasising scientific analysis and error measurement.
  - Achieved 90% grade on a lab report based on the LCR circuit.

Numerical Modelling | 2020
  - Scientific computation of problems including the Travelling Salesman and the Tacoma Bridge.
  - Analysis executed using Jupyter Notebooks.

Nand2Tetris | 2023 | Udemy
  - Fundamentals of computer architecture.

C Programming: A Modern Approach | 2023 | K. N King
  - Exercises and programming projects completed.