

# WALI KHAN

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I am a Network and IT Engineer with a strong background in enterprise networking, embedded systems, and IoT. I have hands-on experience configuring routers, switches, and firewalls (Fortinet, ASA, Palo Alto), as well as integrating sensors and microcontrollers for automation projects. My skills include network design, troubleshooting, routing protocols (RIP, OSPF, BGP), and cloud services (Azure). I'm certified in CCNA, CCNP, MCSE, and Fortinet, and I bring a problem-solving mindset with a focus on real-world technical solutions. I have also worked on sensor-based systems during my internship at NCAI and gained valuable experience in microcontroller programming. My strong communication skills and team-oriented attitude allow me to perform well under pressure and contribute effectively to any technical team.

## WORK EXPERIENCE

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### Network Engineer

Feb 2022 – April 2025

#### Networking Experience – Corvit System Peshawar

I developed strong practical skills through hands-on networking projects at Corvit System Peshawar, working with Cisco and Fortinet devices. I was responsible for configuring switches and routers, setting up VLANs, and optimizing routing protocols to ensure seamless data flow and minimal downtime. My tasks also included performance testing, log analysis, and maintaining firewall security configurations using FortiGate devices. I worked collaboratively with the network team to design and implement secure and efficient network solutions. This experience refined my ability to manage, secure, and troubleshoot enterprise-level networks.

### Trainee

Nov 2021 – Feb 2022

#### Internship Trainee – Corvit System Peshawar

During my internship at Corvit System Peshawar, I gained in-depth hands-on experience configuring and managing FortiGate firewalls in a live enterprise network environment. I was involved in setting up firewall security policies, creating VPN tunnels, and monitoring traffic to ensure data protection and network compliance. I actively participated in troubleshooting tasks and collaborated with senior engineers to resolve network security issues. My role also included basic routing and switching tasks related to network optimization. This internship significantly enhanced my technical skills and real-time problem-solving abilities.

## Trainee

Dec 2024– May 2025

### National Center for Artificial Intelligence (NCAI) UET Peshawar

Worked as a Trainee on the development of a mobile vacuum robot using Raspberry Pi and Arduino. Integrated LIDAR, SLAM, and ROS2 for autonomous navigation, and used OpenCV for object detection and obstacle avoidance. Performed Gazebo simulations for testing and optimization, utilized RViz for real-time visualization, and successfully tested the robot's trash collection capabilities.

## Research Assistant

Jan 2025– April 2025

### National Center for Artificial Intelligence (NCAI) UET Peshawar

Worked on IoT-based environmental monitoring systems using Raspberry Pi, Arduino/ESP microcontrollers, and GSM modules. Integrated various sensors and developed deep learning models, including YOLO variants for object detection. Gained experience in 3D design using SolidWorks, creating and printing functional prototypes.

## EDUCATION

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### Bachelor of Science (BSc) in Electronics Information Engineering

Sep 2017 – June 2021

Beihang University, Beijing China

### Swat Public School and College

May 2013 – July 2017

Matric and Pre-Engineering

## AWARDS AND HONORS

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- Excellence Undergraduate Award 2021
- Academic Excellent undergraduate Class Representative Award | 2019
- Excellence Behavior scholarship Award by Beihang University 2020
- Excellence Behavior scholarship Award by Beihang University 2019
- Excellence Behavior scholarship Award by Beihang University 2018
- Foreign Student Scholarship (Undergraduate) by Beijing Municipal Government 2016

## SKILLS

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### Networking & Cybersecurity

- FortiGate firewall configuration, policy creation, VPN setup, traffic monitoring.
- Cisco routers and switches configuration, VLAN setup, subnetting.
- Routing protocols: RIP, OSPF; network performance analysis.
- Network troubleshooting, secure architecture design.
- Network simulation using EVE-NG and Packet Tracer.
- Basic cybersecurity practices, firewall log analysis, internal auditing.

### Programming & AI/ML

- Packet tracer, Python, C++, OpenCV, Microsoft Word, Excel, MATLAB And Eve-NG.
- Graphical User Interface with Python, QT designer, PYQT, and Tkinter.

### Embedded Systems & IoT

- Raspberry Pi, Arduino, ESP8266/32, GSM modules, GPS modules.
- Embedded C, Microcontroller Programming, Serial Communication (UART, I2C, SPI).
- IoT Protocols: MQTT, HTTP, Socket Programming (TCP/UDP).

### Computer Vision & Robotics

- OpenCV, Image Processing, Object Detection, SLAM.
- Robot Operating System (ROS2), RViz, Gazebo Simulation.
- Autonomous Navigation, Real-time Camera Integration.

### 3D Design & Prototyping

- SolidWorks – 3D Modeling and Assembly.
- Functional Prototyping with 3D Printing.

### Communication Skills

- English, Urdu, Hindi ,Pashto and Basic Chinese

## COURSES AND CERTIFICATES

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- Cisco Certified Network Associate Enterprise (CCNA/5352).
- Cisco Certified Network Professional Enterprise Cisco ID: CSC014826878 (CCNP).
- Huawei Certified ICT Associate (HCIA/5355).
- Microsoft Certified System Engineer (MCSE/5354).

- Microsoft Azure Cloud.
- Fortigate Firewall (FortiGate).
- ADDITIONAL NETWORKING TRAINING COURSES
  - PaloAlto Firewall Course Training by Ahmad Ali From Udemy.
  - FTD FIREWALL Course Training by Ahmad Ali From Udemy.
  - ASA Firewall Course Training by Ahmad Ali From Udemy.
  - CCNA Course Training by Ahmad Ali From Udemy.
  - CCNP ENTERPRISE Course Training by Ahmad Ali From Udemy.
  - CCNP SECURITY Course Training by Ahmad Ali From Udemy.
- ADDITIONAL SAFETY CERTIFIED COURSES
- IOSH Certification
- OSHA
  - Occupational Safety and Health Manager Professional Development Program.
  - First Aid Certification.
  - Fire Safety and Prevention Certification.
  - Work Permit System Professional Development Program.
  - Fire Prevention Plans Professional Development Program.
  - Emergency Action Plans Professional Development Program.
  - Confined Space Safety Professional Development Program.
  - Safe Lifting Operations Professional Development Program.
  - Work at Height Safety Professional Development Program.
  - Effective Accident Investigation Professional Development Program.
  - Introduction to Safety Management Professional Development Program.
  - Safety Supervision and Leadership Professional Development Program.
  - Safety Management System Evaluation Professional Development Program.

## PROJECTS

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- Making an Autonomous Robot.
- Smart Kitchen Automation System.
- Design Halfwave Dipole Antenna.
- Electronics Technology Practice.

- Thesis project (High Order Vector FEM for Electromagnetic Analysis).
- Compact Design of Bandpass Filter Based on GaAS.

## SOCIAL VOLUNTEER WORKS

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- **JZT** (Struggle for zero Thalassemia): I'm a good volunteer since my high school.
  - As a member of JZT we spread awareness about Thalassemia at various schools and colleges.
  - Support and help the patient of Thalassemia by arranging blood donation camps and different spots. Besides that, we also do planation in every spring season for the last 3 years, just helping to secure the Nature and greenery of our homeland.
- **Member of PSA** (Pakistan Student Association) Oct 2017 - Jul 2021 Beihang University
- **Head of Art and Culture department at Student Union** | Beihang University
  - I was the member of Student Union (SU) at Beihang University for 4 years.
  - And as a team work we have arranged a lot of activities for university like Talent show, International Cultural Festival (ICF), Halloween party, Award Distribution Ceremony, Football, Volleyball, Badminton and many Sports Events.
- **Arrange Sport Activities:** Cricket, Football, Badminton, Volleyball
- **Member of SQCC for 3 years** (Student Quality Control Circle) SPS College, Pakistan.
- International English Batch **Class Representative** for 4 years in Beihang University.

## INTEREST

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- Networking and Configurations.
- Embedded Systems & Smart Automation.
- Computer Vision & Robotics.
- Environmental & Agricultural Technology.
- 3D Design, Prototyping & Innovation.
- Volunteering Work and Reading.
- Sports, Fitness, Gym and Traveling.