

Muhammad Zain

Nationality: Pakistani

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ABOUT ME

Software Engineer with a focus on Data Science, AI and Computer Vision, skilled in Python, Java, C#, C, and SQL. Proficient in Linux, MATLAB. Passionate about improving human well-being by building secure, reliable AI-driven systems for real-time, healthcare applications.

EDUCATION

Bachelors of Software Engineering

OCT 2021 - JULY 2025

Bahria University

CGPA: 3.74 out of 4.00, Honors: Cum laude

- Granted Provisional Merit Scholarship for Spring 2025 Semester.

Higher Secondary School Certificate (Pre-Engineering)

JULY 2019 - AUG 2021

Aga Khan Higher Secondary School, Karachi

Grade A1

Secondary School Certificate (Science)

AUG 2017 - MAY 2019

Pakistan Internation School, Jeddah

Grade A

EXPERIENCE

Security Consultancy and Forensics Intern

JUNE 2025 - PRESENT

Trillium Information Security Systems

- Investigated Windows Event Logs to uncover security incidents and real-time attack scenarios.
- Presented technical risk assessments, CIS benchmark reviews, change management, Business Continuity Plans, Disaster Recovery Plans, and Business Impact Analysis activities.
- Conducted technical risk assessments and security audits in alignment with the ISMS (ISO 27001) framework.
- Completed full CompTIA Network+ and Security+ training, applying core principles in network defense, threat management, GRC operations, and learned about ISO 27000 family standards.

Full Stack Developer Intern

OCT 2023 - NOV 2023

NexinIT

- Developed web services and applications using ASP.NET MVC, Entity Framework, and SQL Server; utilized HTML, CSS, JavaScript, jQuery, AJAX, Bootstrap, and REST APIs; managed version control with GitHub and deployed on MS Azure.

ACADEMIC PROJECTS

Intelligent Cyber Attacks Detection System – Final Year Project

OCTOBER 2024 – JUNE 2025 – github.com/mzainxo/ICADS

- Integrated ML-based anomaly detection with Suricata IDS for detection of sophisticated DDoS attacks.
- Achieved 99% accuracy on offline Random Forest model testing and 78–94% accuracy in live network environments for real-time DDoS attack identification and mitigation.
- Resolved static signature limitations by embedding adaptive learning, reducing dependence on manual rule updates.
- Android App for stakeholders developed on Java (Android Studio), and Firebase.

AI Compliance Checker Agent – OpenAI Agent

MAY 2025 - JULY 2025

- An AI powered compliance agent, which inspects the reports of 100+ pages and identifies the compliance issues according to relevant US state laws.

Realtime Phishing Emails Detection System – NLP Web Application

NOV 2024 – DEC 2024 – github.com/mzainxo/Phishing-email-detection-using-ML-and-NLP

- Built a web-based phishing detector using TF-IDF and Random Forest Classifier with 95% accuracy.
- Introduced contextual, feature-driven ML detection to outperform traditional spam filters.

Driver Drowsiness Detection System – CV Python App

DEC 2023 – JAN 2024 – github.com/mzainxo/Driver-Drowsiness-Detection-System

- Developed a real-time drowsiness detection system using Computer Vision (OpenCV, Keras) and Convolutional Neural Networks to prevent fatigue-induced accidents with 86% accuracy.

SKILLS & TOOLS

AI: Machine Learning, Natural Language Processing, Computer Vision, LLMs, Ollama, OpenAI API Integration.

Programming Language: C#, Java, Python, C, Bash, SQL, HTML, CSS, JavaScript, and XML.

Tools & Platforms: MATLAB, Kaggle, Jupyter Notebook, Google Colaboratory, AWS, Postman, MSOffice.

Libraries and Frameworks: OpenCV, YOLO, Keras, TensorFlow, Google Vision

Operating Systems: Linux, Windows

Methodologies: Agile, Scrum, Lean, Kanban, SPLC, SDLC, Risk management, Incidence Response.

Soft Skills: Leadership, Problem Solving, Teamwork, Decision Making, Quick Learner.

Standards: HIPAA, GDPR, ISO 27001, ISO 27002, ISO 27005

LANGUAGE SKILLS

Mother Tongue(s): Urdu

Other Language(s): English

(IELTS Overall Band Score: 7.5 or C1)

CERTIFICATIONS

- **MathWorks Medical Image Processing – Coursera**
- **IBM Application Security for Developers and DevOps Professionals – Coursera**
- **Google Cybersecurity Professional Certificate – Coursera**
- **Japanese 5S Methodology Training – Toyota x UNAP**

VOLUNTEERING

Marketing and Creative Lead (Farewell) – Software Engineering Dept., Bahria University

MARCH 2024 – MAY 2024

Volunteer at Heatwave Relief Camps – FGRF

MAY 2022