



Humza Asrar Ahmed

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ABOUT MYSELF

Software Engineer merging cybersecurity innovation with geospatial intelligence to solve socio-environmental challenges. With a track record of crafting secure systems and AI-driven spatial analytics, I bring a nuanced understanding of how technology intersects with societal needs—from safeguarding data infrastructures to optimizing GIS frameworks. Recognized for bridging analytical rigor with creative problem-solving, I thrive on transforming complex problems into scalable, ethical solutions. Passionate about research that pioneers AI's role in cybersecurity and geospatial sustainability, I aim to redefine STEM's real-world impact—one certified algorithm, one spatial dataset at a time.

WORK EXPERIENCE

17/02/2025 – CURRENT San Ramon, United States
DATA ANALYST DANSAN LLC

- Utilized advanced analytics (Excel, SQL, custom dashboards) to monitor and optimize Amazon product pricing, sales trends, and inventory levels.
- Collaborated cross-functionally to blend market intelligence and customer insights, refining pricing strategies and promotional campaigns for peak product performance.

27/01/2025 – 07/03/2025 Karachi, Pakistan
JUNIOR AI ENGINEER (CONTRACT) QUANTUM PARADIGM

- Developed an automated ID card processing pipeline integrating YOLOv8 for face detection, portrait extraction, and OCR (Tesseract & EasyOCR) for comprehensive text capture.
- Engineered algorithms using regex, layout parsing, and deep learning to accurately match attribute labels with values, including multilingual support (e.g., Urdu transcription).
- Optimized system performance through rigorous debugging and documentation, ensuring precise segmentation and maintainable code architecture.

02/07/2024 – 11/10/2024 Islamabad, Pakistan
FULL-STACK DEVELOPMENT INTERN INFINITE ALGOS

- Spearheaded full-stack development and project planning, incorporating requirement gathering, user-centric design, secure authentication/authorization (including sign-up/sign-in), robust database design, and RESTful API integration using Express.js and React.js.
- Delivered a cohesive and secure solution by implementing industry best practices for data handling and credential hashing, ensuring seamless interaction between frontend and backend systems for an enhanced user experience.

12/07/2024 – 18/07/2024 Karachi, Pakistan
LMS IMPLEMENTATION ENGINEER FORMATIVE ACADEMY OF HIGHER EDUCATION AND MANAGEMENT

- Deployed and configured a Learning Management System on Hostinger, ensuring seamless Moodle functionality.

26/06/2024 – 18/07/2024 Karachi, Pakistan
PROCESS ASSOCIATE CLYDE CHEMICALS

- Acquired hands-on analytical and process optimization skills through intensive observation of manufacturing operations, enhancing data-driven decision-making for STEM innovation.

01/04/2023 – 28/06/2023 New York, United States
QUALITY ASSURANCE ASSOCIATE INTERN NEODOCTO INC

- Automated e-commerce product listings and geospatial data extraction from Google Maps using Python (Selenium & BeautifulSoup) for enhanced accuracy and GIS insights.
- Optimized digital operations by integrating advanced project management tools with contemporary digital marketing strategies.

- Designed and developed a responsive product listing website using HTML, CSS, and JavaScript, ensuring detailed and coherent content through rigorous research and expert collaboration.

- Authored and published a study in Policy Perspectives on youth sports culture, societal benefits, and district-level policy measures.
- Optimized multilingual (English/Urdu) audio-to-text transcription using SaaS automation and manual refinements, bolstering academic research.

● EDUCATION AND TRAINING

- Solid grounding in data structures, AI/ML, advanced network security, with hands-on security firewall and Linux scripting, applying to real-world GIS applications.
- Gained industry exposure through field visits and collaborative projects, seamlessly bridging academic knowledge with practical solutions in cybersecurity and geospatial data.
- Actively participated in Model OIC debating society as a representative, environmental initiatives, and GIS-focused events, honing communication skills and interdisciplinary expertise.

Field of study Discrete Structures (COMP-121), Applied Physics (PHY-101), Calculus and Analytical Geometry (MTH-101), Object Oriented Programming (COMP-112), Probability and Statistics (MTH-210), Data Structures and Algorithms (COMP-201), Operation Research (COMP-223), Linear Algebra (MTH-204), Operating Systems (COMP-262), Database Systems (COMP-231), Software Requirement Engineering (COMP-271), Mobile Application Development (COMP-313), Simulation and Modeling (COMP-323), Computer Networks (COMP-352), Human Computer Interaction (COMP-272), Software Design and Architecture (COMP-273), Software Quality Engineering (COMP-380), Software Construction and Development (COMP-370), Information Security (COMP-291), Software Project Management (COMP-470), Machine Learning (COMP-240), Computer Vision (COMP-440), Intellectual Property Law (MGT-356), Software Testing Tools and Techniques (COMP-385)

Level in EQF EQF level 6 | **National classification** PNQF Level 6 | **Type of credits** CHS | **Number of credits** 130 |

Thesis AI-driven Sentiment and Emotional Analysis Framework for Multimedia Content

- Cultivated advanced analytical and research skills through a rigorous IB curriculum, with a strong emphasis on STEM subjects and interdisciplinary projects.
- Enhanced leadership and teamwork by actively engaging in debate, adventure, and environmental initiatives, balancing academic excellence with community involvement.

Field of study German AB SL, Psychology SL, Chemistry HL, Physics HL, Mathematics Analysis and Approaches HL, Theory Of Knowledge , Extended Essay, English A: Lang and Literature SL

Final grade 33 | **Level in EQF** EQF level 4 | **Type of credits** IB Diploma Points Framework | **Number of credits** 45 |

Thesis Affect of Bisphenol-A on Chemical Equilibrium of the Endocrine System of Invertebrates

- Demonstrated leadership as a Model UN delegate and basketball captain, while deepening scientific inquiry beyond the standard Matric curriculum through rigorous self-study and mentorship from a distinguished theoretical physics researcher.

Field of study Physics, Chemistry, Mathematics, Biology, English, Urdu, Islamiyat, Pakistan Studies | **Final grade** A | **Level in EQF** EQF level 3

● DIGITAL SKILLS

Software Development | Retrieval-Augmented Generation | Market Analysis & Planning | Competitive Intelligence | Strategic Problem Solving | Creativity & Innovation | Strategic & Corporate Communication | Large Language Models Operations (LLMOps) | Artificial Neural Networks | AI | Docker | Git | Python | JavaScript | Research & Development (R&D) | Linear Programming | Analytical Reasoning & Method Development | Kali Linux | SQL | Docker & Kubernetes | Data-Structures & Algorithms | Machine Learning & Vision | Encryption & Cryptography | Terminal & Shell Operations (CLI) | DB & Web Administration | Continuous Improvement | Computer Networking & Security | Process Simplification | Geospatial software - ArcGIS, Land Change Moduler, Arc SWAT, SWAT CUP | Other skills: Data-Science, GIS and Remote Sensing, Math and Statistic | FOSS tools for geospatial analysis

● COMMUNICATION AND INTERPERSONAL SKILLS

Creative Problem Solving | Adaptability | Conflict Resolution | Emotional Intelligence | Active Listening

PROJECTS

10/2024 – CURRENT
AI-driven Sentiment and Emotional Analysis Framework for Multimedia Content

- Developed a robust NLP pipeline using transformer models (RoBERTa, BERTopic), spaCy, and custom text chunking with dynamic Matplotlib/Streamlit visualizations for real-time transcript analysis and actionable insights.

01/2025 – 26/02/2025
Gatsby React Portfolio Website

- Engineered a high-performance static website using Gatsby, leveraging GraphQL for dynamic content, styled-components for modular styling, and continuous Netlify deployment—featuring optimized images, SEO best practices, and smooth animations for an engaging user experience

Links <https://github.com/HumzAhme/myPortfolio> | <https://humza.eu>

12/2023 – 01/2024
Proxy Firewall for Secure Traffic via Public VPS IP Masking

- Configured PfSense proxy server with Squid for reverse proxy caching, implemented pfBlockerNG for mass DNS blocking, and deployed Ntopng for comprehensive network monitoring and logging.

05/2023 – 06/2023
Task Automation using AutoHotKey.ahk Scripting

- Streamlined repetitive GUI tasks using AutoHotkey by mapping shortcuts for frequent texts and special characters, and compiling scripts into executables for universal deployment.

Link <https://github.com/Drugoy/Autohotkey-scripts-.ahk>

12/2022 – 03/2023
Airplane Seat, Passenger and Aircraft Deck Allocation System

- Engineered an airplane seating and deck allocation system leveraging OOP and advanced data structures (queues, linked lists, constructors, pointers, etc.) for optimized resource management.

Link https://github.com/HumzAhme/Airplane-Seat_Deck-Reservation-System

06/2022 – 08/2022
Web & Content Developer (HTML, CSS, JS ; WordPress)

- Developed a dynamic website using HTML, CSS, and JS featuring custom product content, an integrated client email subscription database and hosting.

Link <https://pearl-intl.com/>

02/2022 – 03/2022
Algorithmic Text Encryption Engine (C++)

- Developed a CLI-based tool that leverages a data-driven Caesar cipher—using arithmetic on ASCII codes with a user-specified key—to encrypt and decrypt text strings, highlighting algorithmic design and mathematical precision.

Link <https://github.com/HumzAhme/1st-encryptionDecryption>

LANGUAGE SKILLS

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C2	C2	C1	C1	C2
GERMAN	A2	A2	A2	A2	A2
ARABIC	A2	A2	A2	A2	A2

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user

COMPETITIVE HACKATHONS

07/11/2024 – 09/11/2024

ALLAM Hackathon | Saudi Data and AI Authority and SAFCP

- Collaborated with a team at SDAIA's hackathon in Riyadh to develop an AI-powered pipeline for real-time monitoring and analysis of Arabic social and electronic media.
- Delivered actionable insights for sectors such as defense, media regulation, and content filtering, demonstrating innovation and cross-disciplinary teamwork.

Other Competitions & Trainings

- Demonstrated interdisciplinary excellence by excelling in high-caliber competitions—including HRCA (robotics/STEAM innovation), MLSA CodeAir 2.0 (competitive coding), Kaggle Python (data modeling), and HITEC CodeWar Hackathon (time-based programming)—thereby honing advanced analytical, problem-solving, and teamwork skills.
- Augmented technical prowess through rigorous 5-day Cyber Security Awareness Training by NCSaEL Military College of Signals-NUST, mastering practical skills in malware analysis, network auditing, and real-time threat detection to build authentic, industry-ready cybersecurity expertise.

HONORS & LEADERSHIP

10/2018 – 01/2019

Basketball Captaincy

- Spearheaded the formation and training of a competitive basketball team through strategic player selection, collaborative coaching sessions with school staff, and intensive skill development drills, demonstrating leadership in fostering team coordination, decisive decision-making under pressure, and analytical ability to optimize offensive/defensive strategies

14/12/2018 – 16/12/2018

MUN Delegate (DISEC)

- Spearheaded evidence-based policy proposals on disarmament through in-depth analysis of Indonesian geopolitical history, refining diplomatic communication and cross-cultural negotiation strategies to address global security challenges with analytical rigor.

CERTIFICATIONS & LICENSES

08/2024 – 08/12/2024

Generative AI Application Developer | by PakAngels Inc

Link <https://credsverse.com/credentials/2e1bab37-b2dd-48ca-97e6-ed12c4ab6612>

07/2023 – 25/01/2024

IBM Back-End Development

Link <https://www.coursera.org/account/accomplishments/specialization/TDYLRGVH7PMV>

09/2023 – 15/10/2023

Secure Full Stack MEAN Developer | by EC-Council

Link <https://www.coursera.org/account/accomplishments/verify/Y4CYNCH2X2C9>

02/2023 – 02/03/2023

SQL for Data Science | by UC Davis

Link <https://www.coursera.org/account/accomplishments/verify/CDHVLQNBjXXX>

01/2023 – 30/01/2023

IBM Penetration Testing, Incident Response and Forensics

Link <https://www.coursera.org/account/accomplishments/verify/XASUQ76YXBEB>

06/2022 – 18/07/2022

Detecting and Mitigating Cyber Threats and Attacks | University of Colorado System

Link <https://www.coursera.org/account/accomplishments/verify/DELMF9ZG98Z3>

06/2022 – 25/07/2022

Disability Inclusion in Education: Building Systems of Support | University of Cape Town

Link <https://www.coursera.org/account/accomplishments/verify/GLNGBZET6ZPC>

05/2022 – 14/07/2022

International and Cross-Cultural Negotiation | ESSEC Business School

Link <https://www.coursera.org/account/accomplishments/verify/MY6BLZX28UFV>

15/07/2022

Kubernetes: Create Multi-App Cluster with Ingress & Logging

Link <https://www.coursera.org/account/accomplishments/verify/95N8ZSP3AGWX>

12/2021 – 05/05/2022

Google IT Support Professional Specialization

Link <https://www.coursera.org/account/accomplishments/professional-cert/6S3G22QPWJLH>

01/2022 – 26/02/2022

FinTech Law and Policy | Duke University

Link <https://www.coursera.org/account/accomplishments/verify/EXRNZLCBV2AR>

VOLUNTEERING

12/01/2025 – 26/01/2025 Islamabad

IRU Marathon Course Guide | Islamabad Run with Us

- Provided real-time course guidance for over 3,000 marathon participants using effective verbal, nonverbal, and multilingual communication to ensure safe navigation.
- Collaborated with team leads on logistics and RFID tracking, enhancing leadership and teamwork skills through coordinated on-course support.
- Boosted event readiness by assisting with pre-race setup and providing timely refreshment support during high-traffic segments.

06/12/2024 – 08/12/2024 Islamabad

Commentator, Performance Tracker, Coordinator, Volunteer Staff | Islamabad Cycling Association

- Provided bilingual (Urdu/English) live commentary and motivational support, enhancing the spectator and cyclist experience.
- Managed event logistics and performance tracking—including video documentation and real-time position monitoring—to ensure seamless event execution.

07/2024 – 09/2024 Islamabad

Markhor'24 | Youth Impact

- Facilitated interactive workshops for 9th-grade students, focusing on digital literacy and financial independence through engaging activities, brainstorming sessions, and hands-on business simulations, fostering critical thinking and entrepreneurial skills.
- Developed and implemented practical learning experiences that encouraged students to calculate costs, understand profit margins, and learn from real-world business scenarios, promoting integrity and a growth mindset.

Link https://pern-my.sharepoint.com/:f/g/personal/b21f0212se019_fecid_paf-ia-st_edu_pk/EiQ-nYvSQjxNgPod30-gSmEB8rDnHCtfgHdopSHE4YwbhQ?e=UHe7XY

HOBBIES AND INTERESTS

Sports Connoisseur

Rock Climbing | Running | Skiing | Ice Skating | Long Tennis | Swimming | Horse Riding | Taekwondo | Football | Gymnastics

Personal Interests

Geospatial Storytelling & Mapping | Animal Welfare | Knowledge Sharing | Philosophical Debates | Societal Discourse | Cross-cultural Research using GIS tools | Wildlife Preservation | Children Education
