IMRAN NAWAR

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EDUCATION

Bachelor of Science in Computer Science　　　　　　　**Sept 2020 - July 2024**
Islamia College University, Peshawar (Pakistan)　　　　　　CGPA: 3.78/4.00
- Supervised by Dr. Muhammad Sajjad
- Final year thesis: Deep Learning assisted Autonomous Navigation over Economical Hardware
- Relevant Courses: Artificial Intelligence, Artificial Neural Networks, Digital Image Processing

RESEARCH INTERESTS

- Multimodal Vision-Language Models: Video understanding, Video question answering
- Computer Vision and Autonomous Systems: Scene Understanding and Autonomous Navigation

EXPERIENCE

Digital Image Processing (DIP) Lab　　　　　　　　**July 2024 - Present**
Research Assistant　　　　　　　　　　　　　　　Peshawar, Pakistan
- Currently developing a question-guided temporal highlighting model for video question answering.
- Co-authored two research papers (under review): one on autonomous navigation, and another on quantum-resilient cybersecurity frameworks for Internet of Energy infrastructure.
- Act as Teaching Assistant for Data Visualization (DSC 635) ⌂, Digital Image Processing (COMP416), Information Retrieval (COMP423), and Advanced Programming (COMP327) ⌂ courses

Corvit Networks　　　　　　　　　　　　　　　**Jan 2025 - Aug 2025**
Artificial Intelligence Instructor　　　　　　　　　Islamabad, Pakistan
- Delivered the "Artificial Intelligence (Machine Learning & Deep Learning)" course at Corvit Networks, as part of the Prime Minister's Special Initiative for Youth in collaboration with NAVTTC. [Jan 2025 - Mar 2025]
- Delivered the "HCCDA-AI" (Huawei Certified Developer Associate Artificial Intelligence) course at Corvit Networks, as part of the Huawei's mission to empower youth across Pakistan in collaboration with NAVTTC. [May 2025 - Aug 2025]

Digital Image Processing (DIP) Lab　　　　　　　　**Nov 2023 - June 2024**
Undergraduate Student Researcher　　　　　　　　Peshawar, Pakistan
- Worked on autonomous navigation project for BS thesis.
- Designed and developed an autonomous navigation prototype on economical hardware (Jetson Nano). Developed a framework from scratch, integrating hardware components, optimizing pretrained deep learning models for object detection and road segmentation, and implementing a control module for obstacle avoidance using a single camera.
- Developed an RFID-based door lock system using Arduino microcontroller.

PROJECTS

ResearchSync　　　　　　　　　　　　　　　　**June 2025 - Present**
Tools: Next.js, TypeScript　　　　　　　　　　　　　　　⌂
- Developing an AI-powered platform for research group discovery and collaboration (MVP in development, repository will be made public upon completion).

DIPCar: Autonomous Navigation over Economical Hardware　　**Mar 2024 - Oct 2024**
Tools: Jetson Nano, SSD MobileNet, FCN ResNet34, TensorRT　　　　　⌂

Facial Emotion Recognition: FER through clip encoder　　　**Aug 2024 - Oct 2024**
Tools: CLIP model, Streamlit, PyTorch　　　　　　　　　　　⌂
- Developed a real-time facial emotion recognition app using Streamlit, integrating fine-tuned openai/clip-vit-base-patch32 with 9 FPS inference.

Youtube Video Transcript Summarizer　　　　　　　　　**June 2024**
Tools: gemini-api, streamlit, youtube-transcript-api, python　　　　　⌂
- Developed a Streamlit app to summarize YouTube video transcripts using Googles Gemini API.

PUBLICATIONS IN PROCESS

- **NeuroShield-IoE: A Cognitive, Quantum-Resilient, and Self-Evolving Cybersecurity Framework for the Internet of Energy** *Shehzad Ali*, Imran Nawar*, Ik Hyun Lee, Muhammad Sajjad, Aziz Alotaibi, Victor Hugo C. de Albuquerque, Khan Muhammad*
  June 2025
  IEEE Networks Magazine (Under Review)

- **Democratizing Autonomous Driving Research via Economical Hardware** (Poster) (Code)
  Imran Nawar*, Wajahat Ullah*, Muhammad Sajjad, Usman Ali Shah
  December 2024 (Under Process)

TECHNICAL SKILLS

Languages: Python, C/C++, HTML/CSS

Frameworks & Libraries: PyTorch, Scikit-learn, Hugging Face, Ultralytics, TensorRT, Numpy, Pandas, Matplotlib, Seaborn, OpenCV, Streamlit, Jetson-Inference, ModelArts

Tools: VS Code, Git, GitHub, Jupyter, Kaggle, Google Colab, Vercel, Netlify, Linux, Roboflow, Draw.io, MS Office, Markdown, LaTeX

Core Skills: Artificial Intelligence, Machine Learning, Deep Learning, Computer Vision, Neural Networks, Data Visualization, Data Structures & Algorithms, Technical Writing, Presentation Skills

HONOURS AND AWARDS

- **Secured Third Position** in class with a 3.78 CGPA — 2024
- **Achieved 4.00/4.00 GPA** in Final Semester (Spring 2024) — 2024
- **Recipient of FYP Research Grant** from Ignite NGIRI (PKR 88,644 grant) — 2024
- **Recipient of** Prime Minister's Laptop under the PM's Youth Laptop Scheme (Phase III) — 2023

VOLUNTEER EXPERIENCE

- **Financial Coordinator,** DIP Lab — *Aug 2024 - Present*
  ○ Managing lab finances, including budgeting and expense tracking.

CERTIFICATIONS

- Computer Vision Basics — *Coursera - June 2025*
- Neural Networks and Deep Learning — *Coursera - Mar 2025*
- Mathematics for Machine Learning: Linear Algebra — *Coursera - Jan 2025*
- Getting Started with AI on Jetson Nano — *NVIDIA - Sep 2024*
- Machine Learning Specialization — *Coursera - April 2024*
- Fundamentals of Digital Image and Video Processing — *Coursera - Feb 2024*
- Matrix Algebra for Engineers — *Coursera - Dec 2023*
- Python for Data Science, AI & Development — *Coursera - Nov 2023*
- Meta Front-End Developer Specialization — *Coursera - Jul 2023*
- Introduction to Python — *Datacamp - Oct 2022*

OTHER INTERESTS

- Reading, Interesting topic discussions, Fitness, Cricket, Table Tennis, Traveling, Hiking

Referee's are available on request