Awais Nazir

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About Me

I am a 5th-semester Software Engineering student at NUST with a deep passion for artificial intelligence. My academic journey is focused on expanding my expertise in computer vision, and generative AI. Currently, I am engaged in research on causal inference in computer vision, exploring the integration of causality to improve the effectiveness of AI models.

Work Experience

Made IT Company
Islamabad, Pakistan

Machine Learning Research Intern (Pytorch, OpenCV, Scikit-learn, Docker) Summer 2024

- Developed an AI based semantic search platform supporting search by text, image, and weighted average of both. Utilised **Clip** by OpenAI **Milvus** vector database. Github
- Contributed to visual recognition for UK rally cars re-identification. Constructed the project pipeline incorporating **AM-Radio, ffmpeg, YOLO, KNN** and studied various object re-identification papers.
- Acquired proficiency in model conversion for faster inference using **TensorRT** and **ONNX runtime**.
- Developed a **facial recognition** system using Siamese network, triplet loss, Cosine similarity, and KNN.

NCAI Deep learning research lab
NUST Islamabad, Pakistan

Computer vision Intern (Python: Tensorflow, Pytorch, OpenCV) Summer 2024

- Contributed to Squash court ball tracking. Experimented with various augmentation, tracking, and image processing techniques to overcome occlusions and false positives. Orchestrated the evaluation script.
- Implemented **Pix2Pix GAN** to generate building design from sketches. I modified the original generator by replacing BatchNorm with **InstanceNorm** and resolved the artifacts on generated images. Github

Academic Projects

Tennis Players Analysis System: Players, ball speed, and shots tracking for performance analysis. Github
Real Time Face Mask Detection: Transfer learning on **MobileNetV2** on a dataset from Kaggle. Github
Hand Gesture volume controller: Employed MediaPipe for hand landmarks and OpenCV. Github
Search Engine in Python: Leveraged 120,000 articles from **Nela-gt-2022** dataset. Custom-built web page ranking algorithm for handling single and multi-word user queries in milliseconds. Github

Education

2018 - 2019	10th grade **Wittenberg Birnamwood High School, USA**	(CGPA: 4.0/4.0)
2022 - 2026	BESE **NUST, Pakistan**	(CGPA: 3.64/4.0)
2020 - 2022	FSC Pre-Engineering	(Grades: 1039/1100)
2018 - 2020	Matriculation	(Grades: 1081/1100)

Courses and Specializations

Machine and Deep Learning Specialization by deeplearning.ai Link
Generative Adversarial Networks (GANs) Specialization by deeplearning.ai Link
TensorFlow Specialization by deeplearning.ai Link
Associate Data Scientist in Python (Datacamp) Portfolio
Programming - Data Structures (Python, C and C++) LeetCode

Achievements

Kennedy-Lugar Youth Exchange and Study (YES) Programme Scholarship Winner
International Education Week Presentation Excellence Award
1st Semester high GPA Scholarship Holder
Best semester project in the Design and Analysis of Algorithms course
Special recognition award for 100+ hours of community service in the USA
Google Developer Student Clubs (GDSC - NUST) AI Tech Team Member