Abdullah Bin Naeem

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Objective

I am an Artificial Intelligence graduate with expertise in Computer Vision, Generative AI, and Robotics. I aim to solve real-world problems with a focus on innovation, collaboration, and continuous learning.

Education

National University of Computer and Emerging Sciences (FAST-NUCES), BS in Artificial Intelligence, Islamabad, Pakistan — August 2021 – May 2025

- CGPA: 3.2/4.0
- **Coursework:** Machine Learning, Computer Vision, Reinforcement Learning, Natural Language Processing

Experience

AI Developer, Automotive Artificial Intelligence (AAI) GmbH — June 2025 – Present

- Contributing to cutting-edge Generative AI and Computer Vision projects.

AI Intern, Nokia, Islamabad, Pakistan — June 2024 – July 2024

- Enhanced churn prediction capabilities by developing an AI-driven system using SARIMA, ARIMA, TimeSformer, neural networks, GeoHash geospatial modeling, and Gemini API for automated reporting.

Computer Vision Intern, VisionRd, NSTP, Islamabad, Pakistan — June 2023 – July 2023

- Supported maintenance of VisionRd's product inspection AI, ensuring operational integrity and performance through proactive troubleshooting and optimization.
- Conducted uncertainty calculations for object detection in VisionRd's ADAS system.

Technical Projects

- **EcoDrive: Autonomous Car for Smart Waste Collection**
  - Developed a proof-of-concept autonomous car for smart-city waste collection, guided by smart bin signals.
  - Utilized NVIDIA Jetson Nano for real-time decision-making.
  - Implemented Proximal Policy Optimization and Soft Actor Critic, trained in CARLA and Donkey Car simulators with camera inputs.
  - Optimized path planning and collection routes for efficient waste management.
- **BuduNet: Segmentation Model for Autonomous Driving**
  - Built from scratch a dual task segmentation model inspired by YOLOP and TwinLiteNet, using a single decoder with two heads for drivable area and lane segmentation.
  - Utilized ResNet-50 as the backbone for robust feature extraction, with a lightweight decoder upsampling to 360x640 resolution.
  - Trained on the BDD100K dataset with a batch size of 10, supporting real-time inference for autonomous driving applications.
- **SentimentFusion: Multimodal Sentiment Analysis**
  - Developed a multimodal sentiment analysis system integrating BERT for sentence-level caption features and ResNet-50 for image features.
  - Achieved over 90% accuracy on training and test datasets.
- **Object Detection Shooting Game Agent**
  - Developed an object detection-based shooting game agent using YOLOv11 for real-time detection and classification of allies and enemies, enabling gameplay decision-making, as showcased in YouTube demo..

Skills

Technical Skills: Python, C++, PyTorch, TensorFlow, Scikit-learn, OpenCV, NVIDIA Jetson Nano, AWS
AI Expertise: Machine Learning, Deep Learning, Computer Vision, Reinforcement Learning, Generative AI, NLP
Soft Skills: Problem-Solving, Team Collaboration, Leadership, Communication

Publications

- **FACT++: Multi-Stage Hand Keypoint Fusion for Enhanced Egocentric Action Segmentation** Achieved state-of-the-art action recognition on the GTEA dataset with 86.3% average accuracy (88.6% on Split 1, 87.01% on Split 2) by integrating multi-stage hand keypoint fusion into the architecture. Published at IEEE 4th International Conference on Computing and Machine Intelligence (ICMI 2025).

Awards and Certifications

- Dean's List of Honors, FAST-NUCES (Spring 2024)
- Second Runner-up, Computer Vision Hackathon, NSTP VisionRd Hackathon (2024)
- Winner, Speed Programming, NUST Science Bee X (2023)
- Runner-up, Speed Programming, FAST Peshawar NUTEC (2023)
- Advance Computer Vision, Udemy
- Deep Learning and Reinforcement Learning, IBM
- Data Science and Machine Learning Bootcamp, Udemy

Leadership

- Led Google Developer Student Club at FAST-NUCES as Lead (June 2021 – July 2024), organizing tech workshops and events, mentoring 100+ students in AI and programming.
- Increased student engagement by 40% as a core team member of FAST Data Science Society, coordinating data science events and hackathons.

Research and Work Interests

Computer Vision, Generative AI, Robotics, Reinforcement Learning, Embedded Systems

Languages

English, **Urdu**

References

- **Dr. Hasan Mujtaba - FYP Supervisor**
  Designation: Professor and Head of School of Computing
  Email: Hasan.mujtaba@nu.edu.pk
  Address: National University of Computer and Emerging Sciences, Islamabad
- **Dr. Usman Haider - FYP Co-Supervisor**
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- **Dr. Akhtar Jamil - Mentor and Co-author of FACT ++**
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