Asadullah Yousaf

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EDUCATION

Bahria University — Islamabad, Pakistan
Bachelor of Computer Science — *Sep.2021 - June.2025*

Army Public College — Murree, Pakistan
Intermediate in Computer Science (FBISE) — *March.2019 - Sep.2021*

EXPERIENCE

Co-Lead AI Engineer — July 2024 – July 2025
Bahria University — *Islamabad, Pakistan*

- Analyzed and compared various model architectures for generating floor plans from text to image
- Collaboratively divided tasks and managed progress, ensuring consistent communication and team accountability
- Designed and developed a full-stack Django-based web application to allow users to input parameters and generate floor plans dynamically
- Deployed the trained AI model and integrated it with the web app, enabling real-time floor plan generation
- Implemented vectorization of generated floor plans by converting post-generation raster images into editable DXF format for export and further customization

Generative AI Intern — July.2024 - Aug.2024
Center of Excellence, Bahria University — *Islamabad, Pakistan*

- Developed **Assisted Writing Learning** app for early learners
- Built 60,000-image handwriting dataset across multiple categories
- Fine-tuned MobileNet/EfficientNet for handwriting classification
- Lead data preparation and model training for optimal performance
- Conducted literature review on floor plan generation for FYP

CERTIFICATES

Certificate of Appreciation | *Project Competition at COMPPEC NUST* — 2025
How Diffusion Models Work | *DeepLearning.AI* — 2024

PROJECTS

Floorplan Generation | *Python, SQLite* — July 2024 – Present

- Implemented prompt engineering and formatting pipeline to convert user input into structured format for a fine-tuned FLUX diffusion model
- To convert generated raster floor plans into vector formats, applied Image Processing Techniques
- Extracted room labels, sizes, and color details from the generated floor plan and saved them in a JSON file. This data was then used to create a vector version of the image, making it compatible for export to tools like AutoCAD and Revit.
- Supported direct PNG downloads with labeled dimensions

Story Generation Using LSTM and GRU | *Python(Tensorflow, NLTK)* — June 2024 – June 2024

- Designed a model where users input a 50-word outline, and the system generates a complete story of the desired length
- Scraped and cleaned large-scale textual data for training sequence models
- Compared LSTM and GRU models in terms of coherence and creativity
- Observed better performance from GRU on short sequences due to its relatively simpler structure and faster convergence within 50 training epochs

TECHNICAL SKILLS

Languages: Python, C/C++, JavaScript, HTML/CSS
Frameworks: TensorFlow, PyTorch, Keras, LangChain
Developer Tools: Git, VS Code, Visual Studio
Libraries: pandas, NumPy, Matplotlib, OpenCV, Pillow