Muhammad Naeem

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Education

Comsats University Islamabad, Pakistan September 2019 – June 2023

Bachelors of Science in Computer Science

Relevant Coursework: Data Structures and Algorithm, Digital Image Processing, Machine Learning, Computer Vision, Pattern Recognition

Skills

Python, C++, HTML/CSS, NumPy, Pandas, OpenCV, PyTorch, TensorFlow, Keras, Git, AWS, Fast API

Experience

NineSol Technologies April 2023 – Present

AI Developer

- Implemented numerous AI models as backend solutions for mobile and web applications.
- Created advanced features like Background Removal, Colorization, Document Scanning, and Virtual Try-on, as outlined in my portfolio, to enhance application functionality.
- Tried to stay informed about the latest industry trends and technologies while implementing AI models to improve the features of various applications.
- Worked closely with diverse teams to seamlessly incorporate AI-powered functions into mobile applications.
- Tools: Python, PyTorch, TensorFlow, YOLO, OpenCV, Keras, Fast API, AWS, GCP

Projects

Weed Detection Robotic Car

Tech Stack: YOLO, TensorFlow, Flask, Tkinter, VS code, Colab, Roboflow, labelimg

- Created a web application for AI-based weed classification and integrated it into a prototype of a robotic car equipped with laser technology (used LEDs as a laser in this prototype).
- Developed a user-friendly interface for remote monitoring and control. This automation streamlines weed detection for eco-friendly agriculture, ultimately enhancing crop yield through effective weed control.

Background (Remove or Change)

Tech Stack: Python, PyTorch, TensorFlow, NumPy, Scikit-Learn, OpenCV

- Created a tool for effortless removal or replacement of image backgrounds.
- Ensured precise object isolation and improved overall image quality.

Colorize Gray scale Image

Tech Stack: Python, PyTorch, TensorFlow, Fast API, Colab, VS code

- Implemented a model for the instant colorization of grayscale images, employing advanced algorithms for efficient and high-quality results.
- Enhanced the historical significance and visual appeal of black and white imagery by adding color to restore and preserve them.

Auto-Generated Meeting Reports with AI Scrum

Tech Stack: Python, Azure, GPT, PyTorch, TensorFlow, Fast API, Colab, VS code

- Provides real-time meeting transcription, distinguishing between speakers through voice recognition.
- Automatically generates and emails comprehensive meeting reports to each participant at the conclusion of the meeting.

Document Scanner

Tech Stack: Python, OpenCV, PyTorch, TensorFlow, Fast API, Colab, VS code

- Facilitates easy document scanning, dewarping, and organization with automatic image correction.
- Allows the creation of PDFs from your scanned images.

Sky Changer

Tech Stack: Python, PyTorch, TensorFlow, Fast API, Colab, VS code

- Easily replace the background sky in your images with reference sky images to enhance visual appeal and creativity.

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AI Art Generation

Tech Stack: Python, PyTorch, TensorFlow, Fast API, Colab, VS code

- Implemented an AI Art Generator based on the concept of Diffusion Models, producing sophisticated and high-quality images.

Face Swap

Tech Stack: Python, Dlib, PyTorch, TensorFlow, Fast API, Colab, VS code

- Enables users to effortlessly replace faces in images. Users can select a "from image" as the source face and a "to image" as the target image for the face replacement, resulting in seamless face swapping.

Talking Image

Tech Stack: Python, Dlib, PyTorch, TensorFlow, Fast API, Colab, VS code

- Utilizes a reference video featuring speaking and moving subjects as the foundation for creating animated images.
- Employs advanced lip-sync technology to synchronize the image's mouth movements with the speech in the reference video, achieving a lifelike talking effect.
- Applies animation techniques to ensure the image moves naturally and fluidly, replicating the actions in the reference.

Achievements

- Ranked 2nd with "Weed Detection System" in BS Computer Science Final Year Project.
- Won 2nd place at the 2023 Hackathon with the "Weed Detection System".