Muhammad Shavaiz Butt

AI/ML-Software Developer

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Education

National University of Science and Technology, Islamabad
Bachelor's in computer science — Expected: 2025

Skills

Languages: Python, C++, C#, Java, HTML, CSS, JavaScript, PHP, SQL
Software Development: Django, React, Bootstrap
Technologies: PyTorch, Scikit-Learn, pandas, Matplotlib, MySQL, Git
Machine Learning: CNN, RCNN, RNN, GANS, Transformers, Transfer Learning

Experience

Machine Learning Fellowship, ByteWise Limited, Lahore — Jun 2024 – Aug 2024

- Enhanced PyTorch skills and engineered a CNN-based visual classification project, achieving 94% accuracy.
- Attained 97% accuracy in spam detection using scikit-learn, with pandas and NumPy for data handling on datasets like PakWheels.
- Optimized model performance and developed efficient data pipelines, reducing data preprocessing time by 30%.

Game Developer Intern, Mindstorm studios, Lahore — Jun 2023 - Aug 2023

- Developed a tower defense game in Unity, integrating 10 unique shaders with C# and HLSL, enhancing the visual quality and gameplay experience.
- Optimized rendering performance to achieve a consistent frame rate of 60 FPS across various devices.

Projects:

Hand Sketch Recognition | Inception_v3 | Transfer Learning | PyTorch

- Achieved 57% validation accuracy with the Inception_v3 model, outperforming ResNet18 and ResNet50 by 10% and 7% respectively, through advanced custom training and transfer learning techniques.
- Implemented a custom dataset class, resulting in a 20% increase in data processing efficiency. Employed CrossEntropy loss and Adam optimizer, optimizing training performance and convergence speed.

Visual Q/A AI | GPT-2| CLIP | PyTorch

- Achieved a 15% increase in question-answer accuracy by custom-training GPT-2 on the VQA dataset, surpassing the performance of basic models such as simple LSTM and traditional rule-based approaches
- Integrated CLIP for encoding images and text into a unified embedding space, resulting in a 20% improvement in image-text alignment accuracy compared to basic methods like bag-of-words and traditional image feature extractors.

GAN Digit Generator | GANS |Pandas | PyTorch

- Designed and trained a GAN for digit generation over 50 epochs, with generated digits showing basic visual resemblance to MNIST examples.
- Utilized Pandas for managing 60,000 MNIST images and Matplotlib for visualizing results, ensuring clear representation of synthetic digits.

Spam Email Classification | Scikit Learn | Pandas | NumPy

- Constructed a spam detection system using Naive Bayes, SVM, and Random Forest models, achieving over 95% accuracy with the Random Forest model.
- Processed and handled a dataset of 5,172 emails using pandas, implemented models with scikit-learn, and used NumPy for data conversion, optimizing training and evaluation.

Notes App | React | Django | REST_Framework

- Built a full-stack React-Django application for comprehensive note management, including creation, updating, deletion, and listing based on the most recent update.
- Utilized Django for backend database operations and React for a responsive, interactive front-end, achieving 20% faster development compared to using Node.js.