# 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

- At ByteWise Limited, I enhanced my PyTorch expertise and engineered a CNN-based visual classification project with 94% accuracy. I also achieved 97% accuracy in spam detection using scikit-learn and leveraged pandas and NumPy for data handling and analysis on datasets like PakWheels.
- I optimized model performance and implemented efficient data pipelines.

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

- Developed a dynamic game using Unity, implementing advanced graphics with C# and HLSL shaders, enhancing the visual appeal and gameplay experience.
- Collaborating with a team of four during my internship enriched my professional growth and skill development.

## Projects:

**Hand Sketch Recognition** | Inception_v3 | Transfer Learning | PyTorch

- Achieved 57% accuracy using the Inception_v3 model, significantly higher than ResNet18 and ResNet50, through custom training and transfer learning.
- Implemented a custom dataset class and employed CrossEntropy loss and Adam optimizer.
- Collaborated with a teammate, enhancing skills in deep learning and teamwork.

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

- Developed a VQA system using custom-trained GPT-2 on the VQA dataset and CLIP for encoding images and text into a unified embedding space.
- Implemented with PyTorch, this collaborative project of 3 team members enhanced team-based learning and technical proficiency.

**GAN Digit Generator** | GANS |Pandas | PyTorch

- Designed a digit generator using GANs with PyTorch, incorporating the Adam optimizer and binary cross-entropy loss for training.
- Utilized Pandas for data handling and Matplotlib for visualization, achieving notable results in synthetic digit generation.

**Spam Email Classification** | Scikit Learn | Pandas | NumPy

- Developed a robust spam detection system using Python, applying Naive Bayes, SVM, and Random Forest models on a dataset of 5,172 emails.
- Leveraged scikit-learn for model implementation, pandas for data handling, and NumPy for data conversion, ensuring comprehensive training and evaluation.

**Notes App** | React | Django | REST_Framework

- Developed a full-stack React-Django application for dynamic 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.