

# Muhammad Ukasha

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## EDUCATION

**The Islamia University of Bahawalpur**

*Bachelor of Science in Computer Systems Engineering; CGPA: 3.53/4.00*

Bahawalpur, Pakistan

*Sep 2021 – Present*

## SKILLS

**Languages:** Python, C/C++, SQL

**Machine Learning:** scikit-learn, XGBoost, LightGBM, pandas, NumPy

**Deep Learning:** TensorFlow, Keras, PyTorch, CNNs, RNNs, LSTMs

**Natural Language Processing:** NLTK, spaCy, Hugging Face Transformers, TextBlob, BERT, GPT

**Computer Vision:** OpenCV, Image Preprocessing, Data Augmentation

**Model Operations:** Model Evaluation, Hyperparameter Tuning, Cross-Validation, Grid Search

**Tools & Platforms:** Jupyter Notebook, Google Colab, Kaggle, Git, GitHub, Weights Biases

**Research Methodologies:** Sentiment Analysis, Text Classification, Transfer Learning, Prompt Engineering

## EXPERIENCE

### Bayer

*Data Analyst*

Remote

*Jun 2024 – Sep 2024*

- Analyzed agricultural and market datasets to extract actionable insights supporting Bayer's R&D and product strategy teams.
- Built interactive dashboards and data pipelines using Python (pandas, matplotlib), SQL, and Power BI to monitor crop performance metrics.
- Automated data cleansing and transformation workflows, reducing manual reporting time by 50%.
- Collaborated with cross-functional teams to design custom KPIs, ensuring better data-driven decision-making.

### Freelance Project

*Deep Learning Engineer – Leaf Disease Detection System*

Remote

*Sep 2024 – Apr 2025*

- Developed a convolutional neural network (CNN)-based model using PyTorch to classify plant leaf diseases from image data with 92% accuracy.
- Built a custom dataset pipeline for image preprocessing, augmentation, and training with real-world agricultural data.
- Integrated the model into a user-facing web interface with real-time prediction and visualization using Flask and OpenCV.
- Deployed the solution on cloud infrastructure with model logging and result tracking via Weights & Biases.

## PROJECTS

### Sentiment Analysis using Deep Learning

*NLP Engineer*

Final Year Project

*Sep 2024 – June 2025*

- Built and compared multiple NLP models (Naive Bayes, LSTM, BERT) to classify sentiments from social media text data.
- Preprocessed large-scale datasets using NLTK and spaCy, and implemented tokenization, lemmatization, and vectorization techniques.
- Evaluated models on accuracy, F1-score, and training time; BERT outperformed others with 93% F1-score.
- Documented experimental findings and performance benchmarks as part of the university's final year capstone requirement.

## AWARDS & ACHIEVEMENTS

**Leaf Disease Detection System – Deployed AI Solution:** Successfully built and deployed a deep learning model using CNNs for plant disease classification. Integrated the model into a user-facing web application to assist farmers with real-time diagnosis and decision-making.