

# Bilal Saeed

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## WORK EXPERIENCE

### Punjab Safe Cities Authority

*Senior Communication Officer*

Lahore, Pakistan

Jan 2019 - Present

- Developed a sentiment analysis system for Emergency 15 calls using NLP techniques.
- Implemented Speaker Diarization to differentiate voices, enhancing conversation insights.
- Improved quality assurance and optimized response strategies by classifying emotional tones.
- Designed a system to forecast criminal activity and optimize resource allocation.
- Conducted data cleaning, feature engineering, and hyperparameter tuning for improved model accuracy.
- Enabled proactive crime prevention, resulting in a measurable reduction in crime rates.
- Created a real-time dashboard for monitoring emergency response times and operational efficiency.
- Developed APIs with Flask to ensure seamless data integration and continuous monitoring.
- Visualized key metrics using Matplotlib and Seaborn, empowering data-driven decision-making.

## EDUCATION

### Lahore Leads University

*BS-Information Technology*

Lahore, Pakistan

Graduation Date: Jul 2017

*Career Track Certification*

Graduation Date: Nov 2022

*Ethics and Governance of Artificial Intelligence For Health*

Graduation Date: Oct 2024

## PROJECT EXPERIENCE

### Independent Projects

*Machine Learning Projects*

- Built a CNN model to classify bird calls, aiding wildlife monitoring and conservation.
- Implemented a medical chatbot using Langchain for text extraction and vector search, enabling accurate responses to health-related queries.
- Applied clustering algorithms to segment customers by behaviour and demographics, enabling targeted marketing.
- Built an LSTM model to classify movie reviews by sentiment, aiding in audience trend analysis and content moderation.
- Developed an NLP-based model to accurately classify text in five different languages, trained on a diverse multilingual dataset.
- Built a machine learning pipeline to detect fraudulent transactions using supervised learning techniques.

## SKILLS & INTERESTS

Platforms: Jupyter Notebook, Google Colab, AWS (EC2, S3, SageMaker), Azure ML, Google Cloud Platform (GCP), Docker, Kubernetes, Git, Linux, Hadoop, Spark. Tools: Scikit-Learn, TensorFlow, PyTorch, Keras, Hugging Face Transformers, XGBoost, LightGBM, CatBoost, Prophet, OpenCV, NLTK, SpaCy, Selenium,

**Skills:** FastAPI, Flask, Airflow, MLflow, DVC (Data Version Control), Streamlit, Tableau, Power BI. Major Skills: Data Preprocessing & Feature Engineering, Predictive Analytics & Forecasting, Machine Learning Model Development, Model Evaluation & Hyperparameter Tuning, Deployment & Automation (Flask, Docker), NLP, ETL/ELT.

**Interests:** Reading, Travelling, Sports