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# Muhammad Ahmad

## Machine Learning Engineer

Portfolio: [ahmad-alam.github.io](https://ahmad-alam.github.io)  
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### PROFESSIONAL SUMMARY

Recent Computer Science graduate with strong foundation in machine learning and software development. Demonstrated experience in building applications using computer vision libraries, data analysis, and creating user-friendly interfaces. Passionate about applying ML technologies to solve practical problems, with particular interest in gesture recognition and sentiment analysis.

### SKILLS

**Languages:** Python (Advanced), C++, SQL  
**ML/CV:** MediaPipe, OpenCV, TensorFlow, PyTorch, Scikit-learn  
**Data:** Pandas, NumPy, Matplotlib, Seaborn  
**Tools:** Git, Linux, Docker

### TECHNICAL EXPERIENCE

#### GestuNova | Computer Vision Project

Lead Developer

Sept 2023 - June 2024

- Developed a Linux-based application that maps hand gestures to system commands using MediaPipe's hand tracking capabilities
- Created an intuitive GUI for users to customize and bind specific gestures to system commands and keyboard shortcuts
- Implemented system integration layer to execute commands based on recognized gestures
- Built robust event handling system to manage gesture detection events and command execution

#### Lahore Property Analysis | Data Science Project

Developer

Nov 2024

- Developed data processing system for standardizing property metrics across listings
- Created statistical and spatial analysis pipeline using Python, Matplotlib and Seaborn
- Implemented geocoding system for location-based market segmentation
- Generated detailed visualizations and reports for property valuation patterns

#### UK Crime Data Analysis | Big Data Project

Developer

Oct 2024

- Processed millions of street-level crime records across multiple UK counties using Apache Spark
- Implemented SQL-based analysis pipelines for efficient data processing
- Developed automated county mapping and jurisdiction standardization
- Created visualization system for crime trends and patterns analysis

#### Hotel Review Sentiment Analysis | NLP Project

Developer

Jan 2024 - Mar 2024

- Developed sentiment analysis pipeline using Python and NLTK for processing hotel reviews
- Implemented robust data cleaning algorithms for handling inconsistent review formats
- Created word cloud visualizations for theme identification in customer feedback
- Generated granular ratings system for specific service aspects analysis

#### Chess Blunder Detection | Python Project

Developer

Feb 2023 - Apr 2023

- Built a script for analyzing chess games using Stockfish engine integration
- Implemented recursive algorithm for variation tree analysis and blunder detection
- Developed automated analysis file generation for critical positions
- Created tournament history processing pipeline for pattern identification

### EDUCATION

#### Punjab University College of Information Technology (PUCIT)

2020 - 2024

- B.S. Computer Science
- Key Courses: Machine Learning, Computer Vision

### ADDITIONAL ACTIVITIES

- Research Paper: [Comparative Analysis of Hand Gesture Recognition Models](#) (2024)
- Content Writer: FCIT Information and Media Society (FIMS) (2022)
- Participant: PUCon Coding Competition (2023), Rookie Game Jam (2023)