MUHAMMAD HAMID SAEED

Senior Engineer

@ hamidsaeed13@gmail.com +92-301-2216201 Bahawalpur, Pakistan

SKILLS

- Python
- Dash Application
- SQL
- REST
- JSON
- Machine Learning Algorithms
- Neural Networks
- Predictive Analytics
- Data Mining
- Data Visualization
- Model Deployment
- Big Data Technologies
- Cloud Computing
- AI Ethics

TOOLS

- TensorFlow
- PyTorch
- Scikit-learn
- Keras
- OpenCV
- Pandas
- NumPy
- Matplotlib
- Tableau
- Azure
- Docker
- Kubernetes
- Git
- Jupyter Notebook
- Spyder
- VS Code
- PyCharm
- Sublime Text
- Atom
- Linux
- Windows
- MacOS

TECH STACK

- PHP MVC
- Python
- .Net
- Java
- JavaScript
- HTML5
- C++
- VBA

ABOUT ME

As a skilled Python Back-End Developer and AI Engineer, I bring a blend of technical expertise and innovative problem-solving to both software development and artificial intelligence. With a solid foundation in back-end development and machine learning algorithms, I have contributed to the creation of scalable, efficient systems that enhance user experiences and drive operational efficiency. My hands-on experience with frameworks such as Django and Dash along with AI tools like TensorFlow and PyTorch, has enabled me to develop and deploy robust applications and AI models. I have a proven track record in projects spanning web development, computer vision, predictive analytics, and recommendation systems. I thrive in dynamic environments where I can collaborate with interdisciplinary teams to translate complex ideas into scalable solutions that address real-world challenges.

EXPERIENCE

Freelancer | Remotely | Upwork Inc.

September 2019 – Present Bahawalpur, Pakistan

- Developed Python Dash applications with a focus on both frontend and backend functionalities:
  - **Frontend:** Utilized JavaScript, jQuery, Bootstrap, and HTML5 for interactive and responsive user interfaces.
  - **Backend:** Employed Python, Pandas, NumPy, and other libraries for data processing and application logic.
- Designed and implemented data scraping software using python to extract and analyze large datasets efficiently
- Developed desktop applications using .Net to meet client specifications.
- Created dynamic websites using PHP and CodeIgniter framework, delivering robust web solutions for various businesses.
- Continuously researched and adopted new technologies to enhance service offerings and meet evolving client needs.
- Deploy and integrate AI models into production environments, ensuring robustness, reliability, and compatibility with existing systems.

Senior Engineer | The Islamia University of Bahawalpur

September 2022 – Present Bahawalpur, Pakistan

- Leading and supervising staff of TV Studio.
- Overseeing day-to-day operations and ensuring the efficient functioning of the department.
- Conducting regular maintenance and troubleshooting to ensure the reliability and safety of electrical equipment.
- Managing budgets, preparing financial reports, and overseeing resource allocation.
- Planning, purchasing, and installing electrical equipment and systems.

ACHIEVEMENT

Silver Medalist: MSc

Silver Medalist: BSc

PERSONAL

Driving License: LTV
DOB: August 14, 1992
Nationality: Pakistani
PEC: Electrical/60573
Marital Status: Married

LANGUAGES

Urdu: Native

English: Advanced

REFERENCES

Prof. Dr. Shahid Khattak
shahid-khattak-909b9a103
skhattak@cuiatd.edu.pk

Dr. Asjad Ameen
asjad.amin.1
asjad.amin@iub.edu.pk

Lecturer | COMSATS University Islamabad, Sahiwal

April 2018 – September 2022 | Sahiwal, Pakistan

- Teaching Courses
- Course Allocation Coordinator
- Timetable Coordinator
- OBE Expert
- campus Coordinator

EDUCATION

PhD Electrical Engineering | The Islamia University of Bahawalpur

09 2023 – Cont. | Bahawalpur, Pakistan

MS Electronics Engineering | The Islamia University of Bahawalpur

09 2019 – 01 2022 | Bahawalpur, Pakistan

- GPA: 3.88

BS Electrical (Computer) Engineering | COMSATS Institute of Information Technology

03 2013 – 01 2017 | Abbottabad, Pakistan

- GPA: 3.60

CERTIFICATION

Certificate in AI | The Islamia University of Bahawalpur

2024 | Bahawalpur, Pakistan

Supervised Machine Learning | Stanford | Online, Coursera

2024 | online

PROJECTS

Facial Recognition System using Machine Learning | SVM | PCA |

2024

- Developed a facial recognition system using machine learning techniques, incorporating Support Vector Machine (SVM) and Principal Component Analysis (PCA).
- Implemented image preprocessing steps including grayscale conversion and flattening, preparing the dataset for model training.
- Applied PCA for dimensionality reduction, retaining significant features and improving computational efficiency.
- Trained an SVM classifier to recognize faces and predict associated moods, achieving high accuracy on the test set.
- Utilized LabelEncoder to handle multi-class labels for person identification and mood recognition.
- Integrated the model with OpenCV for real-time facial recognition from images, demonstrating practical applications.
- Significance: Enhances security systems with accurate and efficient facial recognition capabilities, applicable in surveillance and authentication.

Punjab Crime Data Dashboard using Python | | |

2023

- Developed an interactive dashboard for analyzing and visualizing crime data in Punjab using Python and Dash.
- Utilized libraries such as pandas for data manipulation, Plotly for data visualization, and Dash for building the web application.
- Implemented multiple tabs for overview, area-wise analysis, and specific crime analysis, enhancing the user's ability to explore data comprehensively.
- Incorporated dropdown menus and range sliders for user input, providing a dynamic and interactive data exploration experience.
- Built visualizations to display crime trends, population data, and police station distributions over time.
- Significance: This tool aids in understanding crime patterns, supporting data-driven decision-making for law enforcement and policy-makers.

Solution of Kasper Problem using Genetic Algorithm | | |

2024

- Developed a solution for the Kasper Problem using a Genetic Algorithm (GA) to optimize weight and profit within a given capacity limit.
- Implemented key GA components including initialization, fitness evaluation, roulette wheel selection, 3-point crossover, and bit-wise mutation.
- Utilized numpy for efficient numerical computations and pandas for data manipulation.
- Designed the fitness function to maximize total profit while ensuring the total weight does not exceed the capacity limit.
- Conducted multiple generations of evolution, selecting the fittest individuals to propagate through the population.
- Achieved significant optimization results, identifying the best individual with the highest fitness score, demonstrating the efficacy of the GA approach.
- Significance: Showcases proficiency in applying evolutionary algorithms to solve complex optimization problems, relevant in fields like operations research and logistics.

Automatic Colorization of Grayscale Videos using Deep Learning | | |

2019 – 2022

- Developed an automatic colorization system for grayscale crime scene videos using deep learning techniques.
- Utilized a feed-forward CNN architecture trained on a million color images from the ImageNet dataset.
- Implemented class-rebalancing during training to enhance color range in the colorized videos.
- Evaluated the system's performance by conducting human perception tests, with approximately 40
- Significance: Provides realistic colorization without user intervention or reference images, aiding forensic investigations by improving accuracy and reducing false colorization.

FYP: Mobile ECG | | |

01 2016 – 01 2017

- clinical grade 12 channel ECG diagnostic device using ADS1298, connected with Android mobile phone.
- Can acquire, store, and send ECG signal to a cardiologist for medication and consultation
- Allows real time communication between patient and doctor