ABDUL BASIT

03191533977 • kashifabdulbasit@gmail.com • LinkedIn • GitHub

Data Science

Dedicated and enthusiastic data science professional with a strong foundation in data analysis, machine learning, and statistical modeling. Proficient in data manipulation, visualization, and predictive analytics, with hands-on experience in both academic and real-world projects. Skilled in full-stack development using Next.js and TypeScript, with knowledge of both frontend and backend systems. Eager to Learn, while continuously expanding technical and analytical expertise.

Education

Superior University Bs Data Science in Undergraduate

Punjab Group Of College ICS in Physics, Sep 2019 - Mar 2022

Certifications

Life Management Skills, Superior University

Intro to SQL, Sololearn

See Pakistan, APSUP/CMACED

Projects

HANGMAN GAME

- Python
- Object Oriented Programming (OOP)
- Git version control
- Developed a fully functional Hangman game in Python using object-oriented programming principles.
- Faced the challenge of implementing a dynamic system that "hangs" or "unhangs" the character based on correct or incorrect word guesses.
- Designed modular classes for game logic, word selection, and user interaction to improve code maintainability and scalability.
- Applied encapsulation, inheritance, and abstraction to manage game states and streamline the game flow.

Library Management System

- Collaborated in a 4-member team to develop a Library Management System using Python (Object-Oriented Programming) and Microsoft SQL.
- Implemented key features including:
    - Book borrowing and return tracking

    - Book availability search
    - Fine calculation for overdue returns
    - Student and staff record management
    - Report generation for administrative purposes
- Designed class-based modules in Python to ensure modularity and maintainable code structure.
- Utilized Microsoft SQL for managing structured data such as user profiles, book inventories, and transaction logs.
- Faced and resolved challenges related to connecting Python with Microsoft SQL, including driver compatibility issues and connection string configuration.
- Engaged with library staff and students for detailed requirement gathering and iterative feedback.
- Contributed to writing system documentation to support usability, maintenance, and future enhancements.

Crypto Price Prediction

- Developed a cryptocurrency price prediction system by leveraging **RapidAPI** to collect real-time market data.
- Demonstrated strong data acquisition and preprocessing skills, including data cleaning, transformation, and feature engineering.
- Applied a variety of machine learning algorithms such as **Linear Regression**, **Random Forest**, and **XGBoost** to analyze historical cryptocurrency trends and predict future prices.
- Built and trained **Artificial Neural Networks (ANNs)**, incorporating **Gradient Descent optimization** to improve model performance.
- Evaluated and compared model performance using accuracy metrics to enhance forecasting reliability.
- Showcased practical problem-solving skills and end-to-end implementation of a data science pipeline, from data collection to model deployment-ready outputs.

Network Infrastructure

- Design and Implement a scalable enterprise-level network infrastructure using **Virtual Local Area Network (VLAN)** segmentation to enhance security and optimize traffic flow between different departments.
- Configured **Dynamic Host Configuration Protocol (DHCP)** for automatic IP address allocation to connected devices, simplifying network management.
- Implemented **Routing Information Protocol (RIP)** and other **dynamic routing protocols** to ensure efficient path selection and automatic updates in the routing table.
- Performed **IP subnetting**, routing protocol configuration, and tested **inter-VLAN communication** to verify network segmentation and accessibility.
- Used **Cisco Packet Tracer** to simulate and validate all configurations, reflecting real-world enterprise networking scenarios and best practices.

Spam Email Detection – Machine Learning Project

- Developed a spam email detection system using supervised machine learning techniques, focusing on binary classification of emails (spam vs. not spam).
- Preprocessed and vectorized raw email text data using **tokenization**, **stop-word removal**, and **Term Frequency–Inverse Document Frequency (TF-IDF)** for effective feature extraction.
- Built and trained classification models using **Decision Tree Classifier** and **Naive Bayes Classifier**, demonstrating strong performance in text-based classification.
- Evaluated model performance using key metrics including **Precision**, **Recall**, and **F1-Score**, ensuring a balanced assessment of accuracy and false positive/negative rates.

- Applied **K-Fold Cross-Validation** to validate model generalization on unseen data and reduce overfitting risk.
- Successfully achieved high accuracy and reliability in detecting spam messages, showcasing a strong understanding of natural language processing (NLP) and machine learning workflows.

Fashion Connect – Full-Stack Web Application

- Developed a responsive fashion web application using **Next.js** (a React-based framework) for building a scalable and server-rendered frontend.
- Integrated **Strapi Headless CMS** with the frontend to manage and display dynamic content such as fashion collections, categories, and designer profiles via RESTful APIs.
- Designed reusable UI components and implemented dynamic routing in Next.js to create a modular and intuitive user experience.
- Encountered and overcame challenges related to implementing **user authentication features** (login and signup pages), enhancing proficiency in session management and secure form handling.
- Used **Zustand** for state management, addressing page layout adjustment issues and maintaining consistent UI state across the application.
- Gained practical experience in CMS integration, API communication, and full-stack development using **Next.js and Strapi**, with a focus on clean architecture and maintainability.

Nextjs-Supabase-Blog

- Built a blog using Next.js and Supabase, enabling users to create, read, update, and delete blog posts .
- Designed dynamic pages with Tailwind CSS and implemented server-side rendering to deliver a smooth experience.

E-commerce Web Scraper – Data Collection & Analysis Project

- Built a web scraper using **Python**, **BeautifulSoup**, and **Requests** to extract product data (titles, prices, ratings) from e-commerce websites for competitive analysis.
- Faced and overcame challenges in **identifying the correct HTML structure** and **locating dynamic content**, which improved skills in website inspection, DOM traversal, and element targeting.
- Used **Selenium** to interact with JavaScript-rendered pages, enabling the collection of data not accessible through static scraping.
- Exported cleaned and structured data into **CSV** format, reducing manual collection time and enabling scalable analysis.
- Applied **Matplotlib** and **Seaborn** to visualize trends in pricing and ratings, supporting insights through graphical representation.
- Implemented **error handling**, **request delays**, and **user-agent headers** to ensure responsible and uninterrupted scraping.
- Strengthened understanding of end-to-end data pipelines, from automated data acquisition to analysis-ready datasets.

Real-Time Hand Gesture Recognition System – Computer Vision Project

- Developed a real-time hand gesture recognition system using **Open Source Computer Vision Library (OpenCV)** and **MediaPipe** to detect and track hand landmarks from live webcam input.
- Utilized a **Convolutional Neural Network (CNN)** trained on a grayscale (black and white) image dataset to classify gestures such as thumbs up, open palm, and closed fist.
- Mapped recognized gestures to system-level commands, enabling control over actions like volume adjustment and mouse cursor movement for enhanced user interaction.
- Achieved over **90% accuracy** in gesture classification with minimal latency by optimizing the model architecture and preprocessing pipeline.

- Faced and resolved challenges in correctly interpreting similar hand signs, which strengthened model tuning, dataset balancing, and real-time feedback handling.
- Combined **computer vision**, **deep learning**, and **real-time data streaming** to deliver an interactive, intelligent control system using only hand gestures.

Core Competencies

Programming Languages python, Front End, Backend CMS, SQL, Flask Basics, Git, Next.js
Communication Skills Effective Communication, English
Data Management SQL, data Visualization
Office Tools MS office, VsCode, Jupiter Notebook, Google Collaborator, Packet Tracer, CMS
Problem Solving problem solving

Volunteering

Guest Management See Pakistan Expo