SOHAIB SULTAN

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PROJECTS

Preference Optimization in Language Diffusion Models
- Investigated Diffusion-DPO and DDPO to align LLaDA with human preferences using HelpSteer and HH-RLHF datasets.
- Evaluated model performance with BLEU, ROUGE, and Perplexity, enhancing text generation quality.
- Contributed to advancing NLP by adapting preference optimization for diffusion-based language models.

Interactive Image Segmentation with SIFT and GrabCut
- Feature Matching: Used SIFT for key point detection and homography for image alignment.
- Object Segmentation: Applied the GrabCut algorithm for accurate object segmentation.
- Interactive Tool: Developed a user-friendly interface for refining segmentation.

Health Premium Prediction System
- Predictive Modeling: Developed a model to forecast health insurance premiums per person using historical data.
- Data-Driven Insights: Analyzed trends and patterns to accurately predict future premium amounts.

WORK & LEADERSHIP EXPERIENCE

Associate Data Scientist
Snowwhite Technologies   **Faisalabad, Pakistan**
📅 Dec 2022 – May-2023   ⚲ Faisalabad, Pakistan

Python Programming Instructor
Mechabotix   **Lahore, Pakistan**
📅 July 2023– Present   ⚲ Lahore, Punjab

Student Society Member (various roles)
VFP, IEEE Student Branch, Hult Prize   **UET, Lahore**
📅 Nov. 2018 – 2022   ⚲ Lahore, Pakistan

- Organizing Volunteer Force Pakistan's Event as Event Lead
- Organize IEEE events as team member
- Organize Hult Prize Event and Team member. Present idea to the audience and judiciary

PROFESSIONAL COURSES

CS50, Introduction of Programming with Python
Harvard University
📅 Dec 2022 – Present   ⚲ Edx Courses

Assosiate Data Scientist Professional Certification
Datacamp
📅 June 2021 – Nov 2022   ⚲ Datacamp Courses

Tools for Data Science Certification
IBM
📅 June 2021 – Nov 2022   ⚲ IBM Courses

EDUCATION

MS. Data Science
Information Technology University, Lahore
📅 08-2024 05-2026   ⚲ Lahore, Pakistan

BSc. Mechatronics Engineering
University Of Engineering and Technology, Lahore
📅 09/2018 – 08/2022   ⚲ Lahore, Pakistan

RELEVANT COURSES

- Advance Courses
  - `Deep Learning` `Big Data Analytics`
  - `Machine Learning`
  - `Data Science Tools and Techniques`
- Core Programming Courses
  - `Computing Fundamentals and Programming`
  - `Object Oriented Programming`
  - `Data Structures and Algorithms`
- Mathematics Courses
  - `Linear Algebra` `Differential Equations`
  - `Probability and Statistics`
  - `Numerical Analysis`
  - `Vector and Complex Analysis`
- Engineering Courses
  - `Control Systems` `Signals and Systems`
  - `Industrial Automation`

TECHNICAL SKILLS

- Programming languages
  - `Python` `C/C++`
- Tools/libraries
  - `Yolo11` `AWS` `Pytorch` `OpenCV`
  - `Scipy` `NumPy` `Matplotlib` `Pandas`

TOOLS

- Software Tools
  - `Visual Studio` `Google Colab`
  - `MongoDB`
- Cloud Platforms
  - `AWS` `Microsoft Azure`
- Hardware platforms
  - `Digital Logic Trainer` `Arduino`
  - `Oscilloscope` `Raspberry Pi`