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Talha Yunus

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ABOUT ME

Enthusiastic Computer Science major, eager to apply and enhance skills in developing innovative solutions. Passionate about leveraging technology to enhance functionality and intelligence. Explored various domains during studies, including website development, game creation, and problem-solving through AI and Data Science. Particularly drawn to AI and Data Science for their capacity to teach computers and make sense of information, such as facilitating communication through chatbots. Seeking a challenging role to further contribute to these areas.

WORK EXPERIENCE

01/06/2023 – 07/08/2023 Lahore, Pakistan

ARTIFICIAL INTELLIGENCE INTERN ALT VENTURES

-Developed and deployed a versatile chatbot with internet integration, email automation, and document summarization functionalities, streamlining communication processes and saving valuable time for end-users.
-Collaborated with cross-functional teams to implement AI-driven features that included scheduling meetings, replying to emails, and locating specific messages within the chatbot environment.
-Conducted comprehensive research on state-of-the-art AI models and techniques, leading to the successful integration of Roop for realistic deepfake video generation, showcasing an innovative use of AI in entertainment.
-Demonstrated strong problem-solving skills by fine-tuning and optimizing the Retrival Based Voice Conversion (RVC) model, resulting in a significant improvement in the quality of generated deepfake videos.

Technical Skills:

- AI Technologies: RVC, Wav2Lip, Roop
- NLP: OpenAI, Langchains,
- Deep Learning Frameworks: Tensorflow, Pytorch, Keras
- Database Integration: Pinecone, PostgreSQL, Chroma

01/06/2023 – 29/08/2023 Lahore , Pakistan

GAME DEVELOPER INTERN MINDSTORM STUDIOS

- Developed a 3D maze-based tower defense game using Unity as part of an internship project.
- Conceptualized and designed the game's mechanics, focusing on procedural level generation and engaging player experiences.
- Implemented algorithms for procedurally generating maze layouts, ensuring uniqueness and playability in each level.
- Designed enemy tower units with distinct behaviors, including movement patterns and attack strategies.
- Programmed player controls and combat mechanics, enabling players to navigate mazes and engage in battles.
- Created an intuitive user interface to display player stats, resources, and in-game information.
- Conducted thorough playtesting to identify bugs, balance issues, and areas for improvement.

- Collaborated with the team to address feedback, iterate on gameplay mechanics, and enhance player engagement.
- Documented procedural generation algorithms, gameplay mechanics, and technical aspects for future reference.

EDUCATION AND TRAINING

01/09/2020 – 27/05/2024 Swabi, Pakistan

BACHELOR OF SCIENCE IN COMPUTER SCIENCE Ghulam Ishaq Khan Institute of Engineering Sciences and Technology

Website https://giki.edu.pk/ | **Final grade** 3.3 / 4/0

LANGUAGE SKILLS

Mother tongue(s): **URDU**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	B2	C1	C1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DIGITAL SKILLS

MERN Stack (MongoDB, ExpressJS, ReactJS, NodeJS) | Ethereum Solidity (smart contracts) | AI, Deep Learning | Selenium (Web Scraping) | Git | Languages : C++,C, Java, Python, JavaScript, C. | Unity 3D engine | App development: Flutter & Dart, React & React native, | MySQL, SQLite, Oracle, Firebase(NoSQL) | Knowledge with tools like Burp Suite, OWASP ZAP, Metasploit, NMAP | DevOps: AWS, Git. | Machine Learning, NLP

ADDITIONAL INFORMATION

PROJECTS

01/09/2023 – 01/03/2024

NLP Powered Business Intelligence App - Final Year Project

- Created an intuitive NLP-based chatbot that interprets user queries and translates them into SQL queries, enabling users to access data without technical expertise.
- Designed a user-friendly front-end interface that provides an interactive platform for users to interact with the chatbot, customize reports, and visualize data through dynamic graphs and charts.
- Seamlessly integrated with multiple backend databases, streamlining the data retrieval process and offering a unified access point for various data sources.
- Empowered business owners with faster decision-making capabilities, as the solution eliminated the dependency on IT users and technical skills traditionally required for BI reporting.
- Implemented customized reports and dashboards, allowing users to tailor insights to their specific needs and objectives, enhancing the relevance of generated reports.
- Leveraged cutting-edge natural language processing (NLP) technologies, including Langchains and OpenAI, to create an intelligent and responsive chatbot interface.

01/07/2023 – 01/08/2023

Multi-Functional Chatbot with Internet Integration, Gmail Integration, Document Summarization, and Database Query Capabilities

- Developed a versatile chatbot with internet integration, email automation, document summarization, and database query capabilities.
- Enabled scheduling meetings, replying to emails, and locating specific messages.
- Utilized vector-based document storage to optimize token usage.
- Seamlessly integrated with user databases for customized queries.
- Improved productivity and decision-making with AI-driven functionality

01/06/2023 – 01/07/2023

Voice Cloning and Deepfake Generation using RVC Model

- Developed and fine-tuned a state-of-the-art RVC (Retrieval based Voice Conversion) model to accurately replicate the voices of renowned personalities in Pakistan.
- Leveraged advanced AI techniques to create highly realistic deepfake videos, enabling the imitation of these influential figures.

01/06/2023 – 15/08/2023

Procedurally Generated 3D Maze Game in Unity

- Designed and developed an engaging 3D maze game in Unity that employed procedural generation techniques to create dynamic and challenging maze layouts for each level.
- Leveraged the Procedural Generation approach to ensure a unique gameplay experience in every playthrough, enhancing replay value and player engagement.
- Implemented an intuitive user interface, enabling players to navigate the maze, overcome obstacles, and strategically plan their routes to reach the exit point.
- Utilized Unity's physics engine to simulate realistic movements and interactions within the game world, enhancing immersion and user experience.
- Integrated visually appealing graphics and lighting effects, contributing to the game's overall aesthetics and creating an immersive atmosphere for players.
- Demonstrated problem-solving skills by overcoming challenges associated with maze generation algorithms, ensuring that levels were logically solvable and devoid of dead ends or impassable paths.

01/04/2023 – 01/05/2023

Hyperspectral Image Super-Resolution via Deep Spatiospectral Attention Convolutional Neural Networks

- I developed a deep learning model for hyperspectral image super-resolution using a combination of spatiotemporal attention mechanisms and convolutional neural networks. The goal of the project was to enhance the spatial resolution of hyperspectral images while preserving their spectral information.
- The key components of the model include channel attention and spatial attention mechanisms, as well as ResNet blocks for feature extraction and fusion. The model takes as input a low-resolution hyperspectral image and a corresponding high-resolution RGB image.

01/03/2023 – 01/04/2023

Enhance Moon Image Resolution (inspired by Samsung's AI technology)

- I successfully created a comprehensive solution for enhancing moon images taken from mobile phones, inspired by Samsung's AI technology.
- By collecting and annotating moon images, leveraging the YOLO deep learning model, and implementing an autoencoder for resolution enhancement, I achieved visually improved high-resolution outputs.
- Additionally, I developed a user-friendly camera application using React Native to facilitate moon detection and super-resolution processes.

01/12/2022 – 01/02/2023

Social Media App

- Developed a social media app using Java, Firebase, and Android Studio
- Implemented features such as user login, registration, posting, liking, commenting, and profile updating
- Utilized Firebase as the backend database for seamless data management

01/10/2022 – 01/11/2022

Graph Visualizer

- Made a Desktop Application using C#, Winforms (.NET) , and SFML
- Implemented Minimum Spanning Tree, BFS, DFS, Dijkstra, Prim, and Kruskal algorithms for graph analysis
- Visualized the edges between nodes for comprehensive graph analysis

01/05/2022 – 01/06/2022

Voting Website - Web3

- Developed a voting website on Ethereum Blockchain using Solidity, React, and Web3JS
- Implemented smart contracts for candidate registration and vote counting
- Displayed real-time vote counts for each candidate for transparent and secure voting process

01/03/2022 – 01/04/2022

Multispectral Image Compression

- Implemented PCA on multispectral satellite images using Python,Scikit-Learn, and Geopandas
- Identified the most useful bands among the images for efficient compression
- Analyzed and compared the images to determine information loss