Hassan Nasr Hassan

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Work Experience

Transport Canada   Ottawa, ON
Data Scientist   February 2023 - Present

- Created curated tables in Databricks using Python and PySpark loaded from Oracle database to acquire big data of 945 projects across Canada to support development of Grants and Contributions dashboard equaling billions of dollars of funding
- Implemented analytical features using Power BI resulting in visualization of project statistics and financial information to ease analysis for 20+ program managers
- Modernized data infrastructure by converting the SQL queries to Python to allow migration of data to Databricks for effective analysis and data manipulation

Fisheries and Oceans Canada   Ottawa, ON
Data Analyst   May 2022 – January 2023

- Performed faster and more accurate matching of raw survey responses with inhouse dataset by automating the process of parsing survey response data in Excel which are then matched with dataset identifying a response rate of 80%
- Provided data visuals on trends and possible correlations from analysis of survey responses to reveal important changes and facts on the Atlantic and Pacific fisheries quota to support the decision making process of higher officials

Defence Research and Development Canada   Ottawa, ON
Data Scientist   June 2021 – December 2021

- Assisted defense scientists in developing tools such as target tracking, 3D object detection, image captioning, and wireless sensor networks by conducting literature review on data fusion algorithms and methods and presenting findings to management
- Applied machine learning model from GitHub repositories based on existing optical character recognition studies to recognize images of typed, handwritten, and printed Arabic text using Python, Linux and Jupytor notebooks
- Presented success rate results of Arabic character recognition to management to know if the machine learning model is suitable for Arabic character recognition

Projects

- Meal Planner AI website (Next.js, Open AI, Firebase, Clerk): Meal planning app that uses AI to provide preference based meal plans for users.
- Rate my professor Chatbot (Next.js, Open AI, Pinecone): AI Chatbot used to get professor information using retrieval augmented generation.
- Flashcards App (Next.js, Open AI, Firebase, Stripe): AI Flashcards generator based on user's preferred topic.
- Youtube Traffic analysis (AWS S3, Glue, Python, QuickSight): Integrated an ETL pipeline to extract and clean youtube traffic data in AWS, to be used for dashboard visuals in QuickSight
- Machine learning based Streaming Application (PHP, Python, Docker): Created a video streaming service with a recommender system based on user activity and interests

Education

Carleton University, Bachelor of Engineering in Software, Graduation - June 2022

Skills

Python, SQL, Power BI, Git, Machine Learning, Databricks, Data Visualization, Data Analytics, Communication Statistics, AWS, QuickSight