J'adore Thompson

Summary

As a software engineer of 1 year my specialities lie on within problem-solving, NLP, LLMs and backend frameworks such as Flask and Django. My work experiences encompasses NLPs, ML, AWS, APIs, Numpy. My most recent project, challenging my limits to develop an LLM model bespoke for those within the real estate industry to fast track the property valuation system, additionally creating standalone predictive model and harvesting data.

Work Experience

Trading Performance and Journal Platform (Personal Project) | Python, Flask, APIs, PostgreSQL, Flask SQL Alchemy, HTML, CSS, AWS EC2, Relationships

- **Sculpting the Backend:** Built the steel beams of which the project stood on. Defining relationships to the DB, connecting and passing JSON data form backend to front end for analytics, enabling functionality of features. All whilst managing the user sessions.
- **API Integration:** A large dependant of this project was a third party API of which was in beta at the time and still is. I worked closely with the founder giving feedback and recommendations to enhance the richness of data available. Incorporating the API was as easy as setting up a web socket and adhering to the rate limits
- **Database Management:** Utilised relational databases to manage the connected accounts of each user. A user has an identical ID within the DB being their email. Second table used that as the foreign key and hosted the unique login ID, salted for security, of each user's account which was necessary for API. Decided on Postgres for reliability and scalability coupled together.
- **Data Visualisation:** Utilised JavaScript and charting libraries to materialise and visualise trader's statistics in a digestible and clear way. Enhancing their performance as they can see metrics such as the most profitable pairs, win-rate etc.

MedMinder API | Python, FastAPI, LRUCache, PostgreSQL, AWS RDB

- **SDLC:** Hosted a call with the client who gave me this task , went over aspects of the planning, deadlines, costs and expectations
- **RESTful:** adhere to the REST architecture with all requests stating the necessary information. For security I imposed an API Key for authentication and security as private data will be at risk.
- **Database PostgreSQL:** Managed relational database through Postgres due to it's robustness and scalability and reliable data management
- **Maintaining Efficiency:** Caching of the data allows to check if anything has changed once a request has occurred on the client side, if not then the client doesn't have to render any information, thus speed and lack of stutters are present.

Property Valuation LLM | Python, Flask, FastAPI, Scikit Learn, Category Encoder, AWS, pandas, Matplotlib

- **Data Retrieval:** For this to work I needed a large quantity of data. I retrieved parts of the relevant datasets from world bank, kaggle and other real estate specific platforms.
- **Data Pre-processing:** In the scenario a column wasn't of the correct data type I utilised pandas / python's astype(type) to assign it's type.

- **Encoding the data:** For a model to interpret categorical or object data it has to be encoded. The exact method is case sensitive. However one of the columns I needed to encode was the area. Of which I utilised categorical encoding, taking advantage of the categorical encoders library.
- **RAG Implementation:** To enhance the model I grew my data source to ensure more than enough data was there for the model to be accurate. Utilising embedding's and vectors through my retriever I was able to find the meaning and similarities of the user's query with my data source. I then ensure a minimum distance necessary for a piece of data to be classed as relevant to then be added back into the prompt.
- **Micro-services:** To improve the modularity and independency of the application I decided to produce microservices. This allowed far better clarity and efficiency of the application as the whole project isn't in one folder which can cause inefficiencises in deployment
- **Inspiration:** The catalyst for me building this came from cold calling, loking for things the market desired I cold called some companies and asked around if they'd like a valuation tool and many agreed. As a result this is what I set out to compelte

Skills

- **Programming Languages:** Python, SQL, J
- **Ancillaries:** GitHub, Git, AWS

Education

Cleeve Park | **- GCSEs**

- English Lit and Lang: 7
- Mathematics: 8

Sir George Monoux | **A - Levels**

- **Computer Science:** B
- **Geography:** C
- **Economics:** B

Extracurricular activities

Wallet Tracker and data visualisation tool
Co-Founder

- Saw an opportunity to add value to new an experienced investors. As crupto booms many new investors come in looking to make money and often cases are the 'exit liquidity ' for those experienced. To help shrink the gap, building a platform to track successful wallets and receive notifications in real time is a great idea.