**Data Science 2 - Dynamic Pricing Model for Local Events & Experiences**

**Dynamic Pricing Model for Local Events & Experiences**

**Objective**

Develop a dynamic pricing algorithm for local events (concerts, workshops, tours) based on real-time demand, competitor prices, and user sentiment, helping event organizers optimize revenue.

**Key Tasks**

* **Data Research:** Scrape event listings, ticket prices, and availability from platforms like Eventbrite, Meetup, and local ticketing sites
* **Demand Estimation:** Use web search trends (Google Trends API), social media mentions, and sentiment from reviews to estimate demand fluctuations
* **Pricing Model:** Build machine learning models (regression, reinforcement learning) to suggest price adjustments dynamically
* **Simulation:** Create a pricing simulation environment to test strategy impact on attendance and revenue
* **Dashboard:** Build interactive dashboards showing demand trends, price elasticity, and suggested prices for organizers

**Data Collection**

* Web scraping (BeautifulSoup, Selenium) for event and ticket data
* Google Trends API for demand signals
* Social media API or public review data for sentiment analysis

**Tools**

* Python: requests, BeautifulSoup, Selenium, scikit-learn, TensorFlow/PyTorch (optional)
* APIs: Google Trends, Twitter API
* Dashboard: Streamlit or Power BI Desktop
* Environment: Jupyter, GitHub

**Deliverables**

* Data scraper and preprocessor scripts
* Dynamic pricing model and simulation
* Dashboard to visualize insights and recommendations
* Documentation with setup instructions and model explanation