

Arpita Mangal

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SKILLS

Specialities: Recommender System | Experiment & Causal Inference | Hypothesis Testing | Un/Supervised Learning

Technologies: Python | SQL | NoSQL | R | SAS | Excel | Pivot | Git | Jira | Redshift | GCP | Looker | Tableau

Libraries: PyTorch | Tensorflow | Keras | Scikit-learn | Spacy | NLTK | Stats models | Pandas | Numpy | Seaborn

Certifications: AWS Cloud Practitioner | Hackerrank SQL (Advanced)

WORK EXPERIENCE

Data Scientist, Practicum **Qualcomm** *San Francisco (Remote) | Sep'22 - Jun'23*

Provided actionable insights by analysing user preferences & brand effectiveness in the \$10Bn compute market

- Comprehended brand sentiment by refining a **BERT** model on 1K+ reviews on Amazon/Target and 60K+ tweets, pre-processed with **NLTK**, scraped using BeautifulSoup and Tweepy and stored the database in MongoDB
- Applied **K-means clustering**, to segment 900+ products with 26 feature points to drive product focus strategies
- Designed a customer preference survey & analysed ~200 responses using **Structural Equation Modelling (SEM)**, establishing impact of price, branding, hardware, software on laptops/desktop purchase decisions

Data Scientist **Kotak Securities** *Mumbai, IND | Jul'21 - Jul'22*

Deployed ML models to improve conversion, retention & hyper-personalization, increasing CLV from \$120 to \$190

- Built a **marketing-mix model** that strategically optimized ad spend and lowered customer acquisition cost by **30%**
- Devised a deep learning-based **customer segmentation** for targeted merchandising, boosting engagement to **13%**
- Recommended stocks based on factors influencing clients trading behaviour, elevating Q/Q revenue by **\$2M**
- Coordinated with cross-functional stakeholders to enhance customer journey experience by examining **CRM** data- customer service request, inbound conversations on chat bot, increasing retention by **25%**
- Designed **AB / multivariate tests**, defined engagement metrics for campaigns (KPIs), advised optimal strategies
- Architected **ETL pipelines** to maintain data on **cloud-premise** facilitating reporting, data modelling and analysis

Graduate Analyst **Barclays** *Pune, IND | Jul'19 - Jul'21*

*Hackathon: Constructed a **fraud detection model** to identify business banking mules and suggested prevention plans*

- Trained an **XG-Boost model** with high accuracy & specificity using **scikit-learn**, reducing detection time by **26%**
- Leveraged variable importance to classify personas, distinguishing banking mules from legitimate customers

Developed features for Barclays Mobile Banking (BMB - Mobile application for Internet Banking of Barclays)

- Coded new app. features, accessibility enhancements while maintaining legacy code. Codebase: ~ 20000 lines
- Implemented app trackers to augment and empower the multi-touch attribution capabilities. (X-code, Jenkins)

EDUCATION

Master of Science, **Business Analytics** **University of California, Davis** *San Francisco, CA Jun. 2023*

BTech & MTech, **Engineering** **Indian Institute of Technology Kharagpur** *Kharagpur, IND Jun. 2019*

PROJECTS

Customer Spend Behaviour and Social Network Analysis (SNA) over Lifetime (Venmo Data) | [Project Link](#)

- Utilised **MLlib** to predicted customer churn from category, recency, frequency of transactions and SNA metrics
- Calculated Social Network metrics- clustering coefficient (triplets), page rank at each point in lifetime in **PySpark**

Synthetic Image Generation From Text Prompts (Generative AI) | [Project Link](#)

- Fine-tuned a Stable diffusion model from **TensorFlow** hub to generate flower images from text prompts in **Keras**
- Converted text prompts into embeddings using a **CLIP** model and then mapped into the **U-Net** via attention layer

Recommend Events in an event-based Social Network | [Project Link](#)

- Implemented hybrid approach with **content & collaborative filtering** recommender system to recommend events
- Identified similar events based on **tf-idf rating** using event description and similar users using **K-means clustering**

AWARDS

MSBA Fellowship, GSM Grant, 1st Position - Barclays Hackathon, Finalist -The Economist, Best member -GYWS (NGO)