ANUSHKA PATIL

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EDUCATION

University of Southern California, Los Angeles, California **August 2022 – May 2024**
Master of Science in Computer Science – Data Science Specialization *GPA*: **3.75**/4.0
*Transferred credits from **University of Washington**, Seattle (**Fall Quarter 2021 – GPA: 4.0/4.0**)*

Birla Institute of Technology and Science, Pilani, Dubai Campus, UAE **August 2017 – June 2021**
Bachelor of Engineering in Computer Science, Merit Scholarship Holder, Distinction *GPA*: **3.93**/4.0

TECHNICAL SKILLS

Programming languages: Python, R, SQL, Java, C++, MATLAB, Scala,
Big Data Tools & Frameworks: AWS, Spark, PyTorch, Databricks, SageMaker, Hadoop, Git
Database Management and BI Tools: RDBMS, NoSQL, Redis, MongoDB, Neo4j, PostgreSQL, Cassandra, BigQuery, Tableau, Power BI
Libraries: Pandas, NumPy, Scipy, Scikit-Learn, Matplotlib, Seaborn, Keras, TensorFlow, NLTK, SpaCy, Beautiful Soup

WORK EXPERIENCE

Artificial Intelligence Engineering Intern, TadHealth, Los Angeles **May 2023 – July 2023**
- Designed web scraping scripts using Scrapy, leveraging MongoDB for efficient data storage, culminating in an effective ETL pipeline.
- Employed BART for summarizing extensive articles and used Latent Dirichlet Allocation (LDA) algorithm for topic modeling.
- Leveraged OpenAI's Ada engine to identify content context and categorize data, establishing reliable ground truths.
- Implemented a semi-supervised NLP model using BERT, with active learning which enhanced the existing model accuracy by 15%.
- Built a healthcare resource recommender system based on dominant tokens of news categories, reducing counselor work hours by 2-3 daily.

Data Science Analyst, Opontia, Dubai **December 2021 – June 2022**
- Implemented K-Means clustering to segment customers based on purchase power and frequency, leading to optimized targeted marketing campaigns and a 15% reduction in marketing expenses.
- Employed multiple linear regression to perform COGS (Cost of Goods Sold) analysis to increase gross margin by 7%.
- Applied Prophet time series model for demand forecasting based on seasonal purchase patterns, boosting PC3 margin by 4%.
- Created dashboards using Tableau and Power BI for daily/weekly brand reviews with extracted lifetime data from e-commerce websites.

Software Engineering Intern, TechRobotix, Dubai **June 2019 - August 2019**
- Engineered an Escape Room-style game with C# on the Unity game engine.
- Focused on optimizing the real-time performance of the game by employing techniques such as performance profiler and static batching.
- Created and deployed two interactive applications on Intuiface for building digital experiences on information kiosks.
- Led a team of 5 and executed an interactive sliding screen by applying Internet of Things concepts, aimed at enhancing user experiences.

RESEARCH EXPERIENCE

Undergraduate Researcher, Birla Institute of Technology and Science, India **August 2020 – January 2021**
- Developed a Facial Emotion Recognition System incorporating computer vision techniques using OpenCV for facial detection in retail.
- Implemented deep learning models using TensorFlow framework and Keras API to assess facial expression based on the FER2013 dataset.
- Fine-tuned and evaluated mini-Xception, ResNet-50, and Inception-v3 models using transfer learning techniques with pre-trained weights from VGGFace and ImageNet, achieving the highest accuracy of 71.2% with the ResNet-50 architecture.

PROJECTS

Recommendation System for Business Ratings **January 2023 - May 2023**
- Constructed a hybrid recommendation system using the Yelp Reviews Dataset, integrating collaborative filtering with XGBoost.
- Utilized PySpark for data processing and XGBoost for predicting user ratings while applying various feature engineering techniques.
- Fine-tuned the model using Optuna hyperparameter tuning and 5-fold cross validation leading to an RMSE of 0.976.

Richter's Predictor: Modeling Earthquake Damage (DrivenData Competition) **February 2023 – April 2023**
- Built predictive models using LightGBM and achieved a high F1 score of 0.752 through rigorous hyperparameter tuning with Optuna.
- Conducted in-depth exploration of Gradient Boosting Decision Tree and Dropouts meet Multiple Additive Regression Trees (DART).
- Collaborated with teammates on applying advanced modeling techniques and ensemble methods for efficient multiclass prediction.

Sentiment Analysis of Reviews for App Success Prediction **March 2020 - May 2020**
- Utilized Google Play Scraper and Beautiful Soup for extracting reviews from Google Play and app review websites respectively.
- Preprocessed the data using RegEx and employed sentiment analysis tools such as SentimentVader and TextBlob.
- Employed SGD Regressor for prediction, achieving a mean squared error of 0.041 on the testing set.

LEADERSHIP & ACHIEVEMENTS

- **Corporate Officer (2023):** Officer of Graduate Student Affairs Committee at Society of Women Engineers (SWE), USC Chapter.
- **Grace Hopper Scholar (2021, 2023):** Received scholarship to attend GHC: the largest conference for women in computing.
- **Dean's List (2017-2021):** Awarded for securing a GPA of above 9 / 10 in all semesters of the bachelor engineering program.
- **ACM Hackathon (2019):** Secured a position amongst the top 3 teams of the Hackathon organized by the BPDC chapter of ACM.
- **International Maths Olympiad (2013):** Received a medal for securing an international rank of 312.