RAGHAVENDRA P

ACADEMIC QUALIFICATIONS

Year	Degree /Board	University /Institution	%/CGPA
2025*	Post Graduate Diploma in Business Analytics	IIM Calcutta, IIT Kharagpur, ISI Kolkata	-
2018	B.E. Electronics & Communication Engineering	NMIT Bangalore	8.1/10
2014	CLASS XII	Alva's PU college	89.83 %
2012	CLASS X	Duddupudi E.M. High School	91.04 %

KEY SKILLS/TOOLS	Critical Thinking, Problem Solving, Team Player, Python, Algorithms, Regular Expressions, SQL

WORK EXPERIENCE (54 Months)

Fermat Education	Sr. Associate-Automation Engineer	Chennai (Jan '20 - Jun '23)

Process Automation	■ Web-scrapped data and created **interactive and data rich dashboards** for students, teachers and principals from scratch using native web technologies for company's K-12 product PiVerb. **Descriptive reports** based on performance, time spent on diagnostic tests were created automatically & shared over mail through API calls. ■ Automated the process of creating **student specific time tables**, preparation **schedules** and downloadable **calendars**, based on strengths and weaknesses. Integrated the feature on the website for easy student access.
Pipeline Monitoring	■ Built **server-side scripts** to monitor and document course purchases. **Integrated WhatsApp** API to enable notifications on successful purchase to users and send **Slack notifications** on failed attempts to the sales team.
Productivity Tools	■ Built **python-based GUI tools** to help the content team in cutting, merging and pre-processing video files. ■ Created a **CAT Score Calculator App**, which was extensively used by students to calculate scores from their response sheets. Performance reports were generated and question level summary statistics were published. ■ Created **interactive tools for visual learning**. Automated the **process of shipping study materials** to the students - Shipping label generation and sending updates and tracking details on WhatsApp were automated.
Key Projects & Impact	■ Designed and automated the process of **creating HTML pages** by extracting content from word documents. This cut down the manual HTML page creation time from **more than three months to a couple of minutes.** ■ Worked with **YouTube API** to update descriptions en-masse, **monitor comments** and collect view statistics automatically and in Live time. This allowed seamless tracking and monitoring of a very large YT video library.

Wipro Technologies Ltd.	Project Engineer	Chennai (Dec '18 - Nov '19)
Support Engineer	■ Worked with the onsite team to provide technical assistance in the day to day activities of a Telecom client.	

AWARDS AND ACHIEVEMENTS

CAT Topper	■ Secured **99.97%ile** in **CAT 2023, (3.28 lakh aspirants, secured ~73rd rank)** and **99.35%ile in CAT'21**.

ACADEMIC PROJECTS

Used Car Price Prediction (Regression)	■ Employed multiple linear regression (**MLR**) model to analyze 1500+ data points & predict price of used cars ■ Validated model assumptions| Tackled **multicollinearity** using **VIF, PCR & L1/L2** regularization techniques ■ Addressed high **influential** and **leverage** points| Improved **adjusted R²** from 0.604 (baseline MLR) to 0.777
Power Demand Forecasting	■ Forecasted Power demand of Northern Haryana using time series methods after **ADF** & **ACF/PACF** analysis. ■ Tried out different **SARIMA** models and picked one with the least **AIC score** achieving **MAPE of 3.83%** and **0.73%** on log transformed and original data respectively. Verified the model by performing Residual analysis.
Song Recommender System (GNN)	■ Built **graph-based** song recommender system on Spotify data of 1 million playlists, 2 million unique tracks. ■ Implemented **GCN, GraphSage & GAT** for link prediction task, achieved **BPR** loss of 0.15, **Recall** @ 300 of 0.6
Need Extraction (NLP)	■ Built **CNN based text classifier** on Amazon Review Data to filter relevant reviews for understanding needs of customers. Achieved **F1 score of 0.69, Precision of 0.785**. Word embeddings were trained using skipgram. ■ Used **Ward's method** to cluster similar sentences (**topic modelling**) to identify sparsely reviewed needs.

ADDITIONAL PROJECTS

Customer Segmentation	■ Segmented **9K+** credit card users by spending patterns for targeted marketing; used **PCA** for cluster profiling ■ Used **Elbow-plot** to find **opt K**; achieved **Silhouette score** (0.4), **Davies Bouldin Index** (0.8) with K-Means
Image Classification (CNN)	■ Developed an ASL **image classifier** to identify 36 hand signs from **2.5K+ images** using **Transfer Learning** ■ Employed **ResNet50** and **InceptionV3**, achieved **95.7% accuracy** with ResNet50 after **Data Augmentation**.
Topic Classification (NLP)	■ Built a model to classify news articles into 4 categories (world, sports, business, science) using **2.5K articles** ■ Leveraged **Word2Vec embeddings**, trained an artificial neural network to achieve a macro **F1-score of 0.49** ■ Applied **bidirect. RNN, LSTM [**macro F1-score: 0.67**]**; attained the highest macro F1-score of 0.90 with **BERT**
Dynamic Portfolio Rebalancing	■ Checked for log normality of return by **KS test** and chose the myopic portfolio using the **Markowitz** method. ■ Found the efficient frontier and selected 'n' optimal portfolios and their corresponding Log return parameter. ■ Applied dynamic rebalancing, assuming transition probabilities to be constant based on Bellman equation. ■ Maximized the probability of obtaining the wealth goal of an investor at the end of the investment horizon.

ELECTIVES : PRO, NLP, Games & Information , Bayesian	INTERESTS : Cycling, Puzzle Solving.