VIGNESHWAR RAVI RAO

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Education

Indiana University Indianapolis — Indianapolis, USA
Master of Science in Applied Data Science — May 2026

College of Engineering Guindy, Anna University — Chennai, India
Bachelor of Engineering in Mechanical Engineering — Apr 2020

Experience

Tata Consultancy Services Ltd. — Chennai, India
Data Analyst — May 2021 – Jul 2024

- Led end-to-end ETL workflows, collecting over 15,000 customer records via web scraping (**Selenium, BeautifulSoup**), transforming them using **Python and Pandas**, and loading into **Snowflake** for downstream analytics.
- Saved 150+ hours by automating customer data integration with **Pandas** and **Regex**, and boosted team productivity by 70% through streamlined quality checks and reporting using **Python** and **Excel VBA**.
- Enabled targeted marketing strategies by identifying 10,000+ active and inactive customers using **SQL** analysis in **Snowflake**.
- Accelerated pricing alignment process by building an **Excel dashboard** with advanced formulas to compare product prices post-merger.
- Documented technical processes and tools I have developed, for internal training and reproducibility.
- **Taught Python** to 8 trainees, including manager and leads, through structured hands-on sessions over 2 months, enhancing their practical coding proficiency.

BOM Analyst — Oct 2020 – Apr 2021

- Automated data consolidation using Excel VBA macros, reducing **manual workload by 85% and saving $9,000** in labor costs.
- **Reduced reporting time by 70%** and improved data visibility by creating weekly reports and KPI dashboards using **PowerBI and Advanced Excel**
- Ensured 100% accuracy in BOM data by collaborating with design engineers to clean and validate BOMs for two car models.

Projects

Dental Vision | Github | Web-App — May 2025

- Trained a **pre-trained Vision Transformer(ViT)** model using **PyTorch** on 15K+ augmented dental images for multi-class classification.
- Developed **5 DL models** and evaluated their performance using **Accuracy**, **Precision**, **Recall**, and **F1-score**.
- Deployed the best-performing ViT model using **FastAPI**, containerized the app with **Docker**, and hosted the web interface via Render for real-time dental disease diagnosis.

Used Car Price Prediction | Github | Web-App — Apr 2025

- Scraped over **19K+** car listings using **Selenium** and **BS4**. Also cleaned the data using **Pandas**.
- Trained and evaluated **7 ML models** including Linear Regression, Decision Tree Regressor, SVR and more using **scikit-learn**; selected best model based on **RMSE** and R^2 scores.
- Deployed the final model using **FastAPI** with token-based authentication, containerized it via **Docker**, and built a **Streamlit** app for real-time price predictions.

Technical Skills

Programming Languages: Python, MySQL, R Programming, Excel VBA
Libraries: Numpy, Pandas, Selenium WebDriver, BeautifulSoup, Regex, Scikit-learn, PyTorch, FastAPI
Technologies: Snowflake, BigQuery, Tableau, GitHub, AWS, Docker, VS Code
Deep Learning: RNN, LSTM, GRU, CNN, Transformers, BERT, Fine-tuning LLMs, GAN, CNN, ViT

Awards

Best Team Award - For outstanding contributions during mergers & acquisitions, streamlining customer data.
On the Spot Award - For improving team efficiency by developing automation tools for data entry and quality checks.

Leadership & Extracurricular

Data Science and Machine Learning Club — Indianapolis, USA
Event Management Lead — Oct 2024 – Present

- Organized 5+ events and delivered technical presentations while collaborating with committee members to plan and launch new initiatives.