VARUNI RAO

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Varuni Rao | LinkedIn • varuni-rao | GitHub • Varuni Rao | Kaggle

Passionate and results-driven **Data Scientist** with a strong foundation in data engineering, analytics, feature extraction, and visualization. Proficient in statistics and mathematics, with a keen focus on developing and optimizing machine learning algorithms. Demonstrated expertise through active participation in Kaggle competitions, consistently applying innovative solutions to complex problems. Self-motivated and organized, ready to contribute to cutting-edge projects in a dynamic environment.

Education

- **Master of Science: Computer Science | Eastern Michigan University | December 2008**
    - Award: Addison Wesley Award - Top Graduate Student (GPA: 4.0), Top of the Class
    - **Skills Learned:** Data Structures, Machine Learning and Data Mining

- **Bachelor of Engineering: Electrical and Electronics | Sri Jayachamarajendra College of Engineering | June 2004**
    - Award: VTU 10th Rank (Top 1%)

Certifications

- **Deep Learning Specialization (DeepLearning.AI) | August 2024**
    - **Skills Learned:** Deep Neural Networks, Convolutional Neural Networks, Sequence Models

- **Applied Data Sciences Program: Leveraging AI for Effective Decision Making | Massachusetts Institute of Technology (MIT Professional) | December 2023**
    - Among the top 1% performers in the cohort
    - **Skills Learned:** Statistical Analysis, Unsupervised Learning, Supervised Learning Algorithms (tree-based algorithms), Data Analysis and Visualization, Deep Learning (CNN, ANN), Recommender Systems and NLP

Projects

- *FEBRUARY 2024 – May 2024*
  Kaggle - Home Credit Risk (Classification):
    - Predicted the risk probability of home credit applicants using 1.5 million records and 464 features.
    - Developed a model using LightAutoML, incorporating an ensemble of 2 LightGBM and 2 Catboost models.
    - Secured a Silver medal, ranking 148th out of 3,858 on the Private leaderboard.
    - **Technologies:** LightAutoML, LightGBM, Catboost, Python.
    - **Outcome:** Enhanced predictive accuracy in credit risk assessment.

- *MAY 2024*
  Zomato Data Analysis using Power BI (Data Analysis and Visualization):
    - Created visual dashboard showing Worldwide Analysis and another dashboard for Restaurant Analysis.
    - Created many measures and geographical hierarchy, used various visualizations such as maps, stacked bar charts, donut charts, gauges, and visual cards to display important information.
    - **Technologies:** MS Excel, Power BI, Power Query, DAX.
    - **Outcome:** Access to quick and effective Management Insights

- *FEBRUARY 2024*
  Conversational Sentiment Analysis (Generative AI):
    - Developed a speech-to-text web application hosted on Google App Engine.

- Utilized Flask and Deepgram API to obtain diarized transcripts from audio files.
- Conducted sentiment and personality analysis using OpenAI API Chat Completion.
- Achieved project completion in a record time of 5 days.
- **Technologies:** Flask, Deepgram API, OpenAI API, Google App Engine.

- *JANUARY 2024*
  Hackathon on Shinkansen Travel Experience (Classification):
  - Predicted overall travel experience ratings for Shinkansen Bullet Train based on individual rating data for a dataset of 90,000 records and 25 features.
  - Implemented a Voting ensemble with Catboost, XGBoost, Random Forest, ANN, and LightGBM models.
  - **Technologies:** Catboost, XGBoost, Random Forest, ANN, LightGBM, Python.
  - **Outcome:** Improved travel experience prediction accuracy and achieved 7th place on the leaderboard.

- *OCTOBER 2023*
  Foodhub Data Analysis:
  - Conducted exploratory data analysis (EDA) in Python to visualize data and extract critical insights.
  - Provided recommendations based on observations to guide business decisions.
  - **Technologies:** Python, EDA, Data Visualization.
  - **Outcome:** Enabled stakeholders to make informed, data-driven decisions.

Skills

- **Programming Languages:** Python, Java, SQL, HTML, DAX
- **Frameworks and Libraries:** Flask, Pandas, scikit-learn, statsmodel, TensorFlow, matplotlib, plotly, flaml, H2O
- **Cloud Platforms:** Google Cloud Services (App Engine), AWS Sagemaker, Microsoft Azure ML
- **APIs:** OpenAI API, Deepgram API, Gemini API
- **Data Visualization:** Power BI, matplotlib, plotly, seaborn
- **Soft Skills:** Team Collaboration, Leadership, Time Management, Problem Solving, Self-motivation

Experience

Lead Instructor | Kumon of Augusta-Martinez | Martinez, GA

JULY 2021 - PRESENT

- Mentor students in math and reading using individualized and differentiated instruction techniques, leading to significant improvements in academic performance and developing foundations in advanced concepts, including pre-algebra, advanced algebra, pre-calculus, and calculus.
- Implemented teaching techniques that resulted in higher retention rates and increased student enrollment, thereby boosting revenue.
- **Skills:** Analytical Thinking, Advanced Mathematics, Mentoring, Instructional Design.

IT Intern | MTU Detroit Diesel Inc. | Detroit, MI

MAY 2008 – AUGUST 2008

- Developed an IT department Inventory Management System and migrated data from Excel to MS Access for better management and process streamlining.
- Conducted data analysis to identify and reduce overdue inventory, resulting in a 10% cost saving in IT inventory expenses.
- Created informative visualizations to present IT department financial data, leading to effective cost-saving measures and commendation from the CIO.
- **Skills:** Data Analysis, Database Management, Data Visualization.

Lead Engineer, SCADA | ABB India | Bangalore, Karnataka, India

JUNE 2004 – NOVEMBER 2006

- Developed and deployed SCADA systems for electrical distribution grids, utilizing TCP/IP, GPRS, and CDMA technologies for improved reliability and remote-control circuit breakers using PLCs to prevent grid failures.
- Analyzed power demand data to create visual trends, enhancing the client's ability to forecast energy demand.
- Led multidisciplinary teams on complex projects for high-profile clients, resulting in repeat orders, referrals.
- Implemented process optimization techniques that ensure faster delivery of solutions to client increasing efficiency in the department operations and increased revenue
- Created training materials, facilitated workshops, and provided training sessions and executive presentations to clients.
- **Skills:** SCADA Systems, Data Visualization, Team Leadership, Client Relationship Management, PLC Programming