V S RITANYA

22PD38

Gender	Female
Date of Birth	11th October 2004
Languages known	English, Tamil
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1/1D, Arumugam Lay-out,
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OBJECTIVE

To obtain a position as a student intern from May 2025 to November 2025.

ACADEMIC QUALIFICATION

Currently pursuing 3rd year of 5 year Integrated M.Sc. Data Science at the Department of Applied Mathematics and Computational Sciences at PSG College of Technology.

SKILL SET

Languages	C++ , Python , C, SQL
Modules	Scikit-learn , Streamlit
Tools	Jupyter Notebook , VS Code, Gephi

AREAS OF INTEREST

- Data Analytics
- Data Structures and Algorithms
- Supervised Learning

ACADEMIC RECORD

- **M.Sc Data Science** *2022-2027*
  PSG College of Technology, Coimbatore **8.64 CGPA**
- **XII (Higher secondary, CBSE)** *2022*
  Suguna PIP School, Coimbatore **91.40 %**
- **X (SSLC, CBSE)** *2020*
  Suguna PIP School, Coimbatore **95.20 %**

INDUSTRY BASED PROJECT EXPERIENCE

- **[24]7.ai** | Data Science Intern (*May 2024 - July 2024)*
  Automatic Speech Recognition (ASR) System Development
  Developed and evaluated an Automatic Speech Recognition system using the AN4 dataset with **PocketSphinx** toolkit. Applied **Hidden Markov Models (HMM)** to optimize speech-to-text conversion, achieving a 25.7% error rate reduction and 11.1% accuracy improvement over the baseline. Explored **Kaldi** toolkit's architecture for ASR and reviewed advancements in speech recognition through research papers.

NON-ACADEMIC PROJECTS

- **Smart Fruit Recognition**

Developed a smart fruit recognition system using **ESP32-CAM** integrated with **Arduino.** Leveraged a TensorFlow Lite **Convolutional Neural Network (CNN) model** for real-time fruit detection, displaying results on a **Streamlit** interface. This project demonstrates the process of model training and integration for IoT-based AI solutions.

- **Suburban Bus Route Design using Dynamic Programming**

Developed a **Dynamic Programming**-based algorithm for suburban bus route optimization using graph theory. Utilized recursive memoization to determine the minimum-cost path while accounting for various stops and constraints. Visualized optimal routes and the graph with **NetworkX**.

ACADEMIC PROJECTS

- **Diabetes Prediction**

Developed predictive models for diabetes using national health survey data, employing **Multinomial Logistic Regression** and **Decision Trees** with **SMOTE** for balancing. Built an interactive **Streamlit** frontend for input and visualization, delivering actionable insights for early diagnosis and risk mitigation using Python libraries like **Scikit-learn** and Streamlit.

- **Payroll Management System**

Developed using **React.js** for the frontend, **Node.js** for the backend, and **MySQL** for the database, this system includes attendance tracking and payroll generation. It monitors employee work hours, late arrivals, early departures, and absenteeism, ensuring accurate and efficient payroll management with a user-friendly interface.

- **Imagino**

Developed a Java project leveraging **OpenCV** to capture images and apply image processing techniques, utilizing **JavaFX SceneBuilder** for creating a user-friendly interface. Integrated **JavaMail API** to seamlessly transmit processed images via email, enhancing efficiency in image manipulation and secure email transmission for improved user experience and functionality.

- **Retweet Trails**

Analyzed the retweet networks of Justin Bieber and One Direction on Twitter using social network analysis techniques and visualized them with **Gephi**. Applied centrality metrics, temporal analysis, and information diffusion to identify key influencers and compare community structure and information spread efficiency.

EXTRA-CURRICULAR ACTIVITIES AND ACHIEVEMENTS

- **Placement Representative**, organized and conducted targeted placement classes while supporting peers for successful placements.
- **Basketball Player,** consistently exhibited commitment, teamwork, and discipline through active participation.
- An active member of **Coding Club** and **Radio Hub**.
- Organized and led a data analytics and visualization hackathon, **'Data Premier League'** at the college level.

DECLARATION

I, V S Ritanya, do hereby confirm that the information given above is true to the best of my knowledge.

Place: Coimbatore
Date : 21/11/2024 (V S Ritanya)