Harshitha Vutukuru Muralikrishna

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Education

California State University Los Angeles *Los Angeles, CA*

M.S. in Computer Science and Engineering *Jan2023-Dec2024*

- **Courses:** Algorithms, Data Science, Artificial Intelligence, Adv. Web Programming, Machine Learning, Operating Systems, Adv. Computer Networks

RNS Institute of Technology - VTU *Bangalore, India*

B.E. in Information Science and Engineering *Aug2015- June2019*

Work Experience

Accenture *Bengaluru, India*

Application Development Analyst *Sep2019-May2022*

- Developed data-driven end-to-end transactions for Société Générale, integrating **JavaScript, MySQL, and RESTful APIs** to enhance transaction efficiency.
- Optimized database performance using **Test Driven Development** and advanced SQL procedures, resulting **reduction in query execution times**.
- Collaborated **cross-functionally** with front-end teams and led backend development, deploying solutions using **Java, Spring Boot, and Jenkins**, improving deployment efficiency.

Spectrus Informatics *Bengaluru, India*

Full Stack Intern *Feb2018-Apr2018*

- Engineered a full-stack solution for an online boutique using **Angular2, JavaScript, and SQL**, streamlining order processing, reducing load time.
- Spearheaded the architecture and development of both frontend and backend, integrating SQL databases, CURD operations and ORM tools for efficient data handling and transaction management.
- **Integrated RESTful APIs** with responsive UI, delivering a seamless shopping experience across devices, increasing user retention.

Projects

Brain tumor detection **[Code]**

- **CerebroVision** project is **developed and implemented with advanced Convolutional Neural Networks (CNNs)**, including **ResNet50, VGG19**, and custom models (**HALNet1, HALNet2, SMVNet, JAPNet**), for **accurate classification** of brain tumors from MRI scans, achieving **95% accuracy.**
- Focused on achieving high **diagnostic accuracy** using **ROC-AUC**, **precision**, and **recall** metrics to evaluate model performance.
- Applied **image pre-processing techniques**, such as **image augmentation, normalization, and edge detection**, to enhance the CNNs' ability to generalize and minimize overfitting, reducing false positives/negatives.
- Integrated **performance metrics** such as **ROC-AUC, precision, recall, and F1-score**, optimizing model evaluation and ensuring high diagnostic reliability in **medical imaging applications**.

Car Price Predictor **[Code]**

- Developed a **machine learning model** to predict used car prices based on features like make, model, mileage, year, fuel type, and engine size.
- Preprocessed data using techniques like **one-hot encoding** and handled missing values to improve model accuracy.
- Implemented and compared **Random Forest Regression** and **Linear Regression** models, tuning hyperparameters using **RandomizedSearchCV**.
- Evaluated model performance using metrics such as **accuracy** and visualized results with **scatter plots**, **residuals histograms**, and **KDE graphs**.
- Achieved insights into feature importance and used **train-test split** to validate models, optimizing accuracy for real-world car price predictions.

Skills

Programming Languages Python, HTML/CSS, JavaScript, Java

Machine Learning Frameworks TensorFlow, Scikit-learn, Keras, NLTK

Data Tools/Frameworks SQL, SQLite, Spring, Tomcat, Flask, PyTorch, PySpark, Git, AWS, Hugging Face, Kubernetes