VARSHA BALAJI

+91 9894310103 ◇ Chennai,Tamil Nadu, India.

Portfolio ◇ E-mail ◇ LinkedIn ◇ Github

EDUCATION

Bachelors of Engineering, SSN College of Engineering — Expected 2024
B.E Computer Science and Engineering, CGPA: 9.011

High School, Maharishi Vidya Mandir — 2016 - 2020
Class 12 CBSE board exam Percentage: 94.6%

SKILLS

Programming Languages: C, C++, JAVA, Python

Web Development: HTML, CSS, JavaScript, Bootstrap, MySQL, MongoDB, ReactJS

Big Data Analytics: Data Streaming, Apache Kafka, Apache Spark

Data Science Libraries and Tools: TensorFlow, PyTorch, scikit-learn, Keras, Google Colab, Jupyter Notebooks, Pandas, NumPy, Matplotlib and Seaborn, Computer Vision (OpenCV), NLTK, Transformers (Hugging face), CNN

CERTIFICATIONS

CERTFICATES LINK

- Stanford University: DeepLearning.ai - Neural Networks & Deep Learning(Ongoing)
- IBM - AI Workflow: Machine Learning, Visual Recognition and NLP
- Data Science Foundations: Great Learning
- NPTEL- IIT Kharagpur Programming in Modern C++

ACHIEVEMENTS AND LEADERSHIP

CERTFICATES LINK

- Event Head of a Data Analytics event (Data Whiz) of SSN's technical symposium.
- 2nd Runner Up - KLA Hackathon 2023.
- Volunteer at U&I National NGO and Event Coordinator as well (2022- Present).
- Classical Dance Team- Student Head and Lead dancer of the college team.
- Marketing- Member of Organising Committee SSN Lakshya, (The Entrepreneur Cell).
- Best project appreciation in a National Big Data Analytics Workshop 2022.

EXPERIENCE

Data Science Intern — July 2022 - August 2022
Synergy Maritime, Chennai, India

- Worked on the live project of the company with large datasets for 3 months, focusing on data analysis,ML, NLP.
- Implemented machine learning models including Linear Regression, SVM, and Random Forest.

PUBLICATIONS

- Deep Learning-Based Renal Stone Detection: A Comprehensive Study and Performance Analysis, Journal of Statistics and Applications- ISSN 2454-7395 (online) (Under Review)

- Automatic Speech Recognition for Vulnerable Individuals in Tamil, presented at LT-EDI-2023 (RANLP). (Under Review)
- Fake News Detection in Dravidian Languages using Transformer Models, RANLP 2023. (Under Review)
- Varsha Balaji, Aishwarya Kannan, Aishwarya Balaji, and Bharathi Bhagavath Singh. NLP_SSN_CSE at hope2023@ iberlef: Multilingual hope speech detection using machine learning algorithms 2023, IBERLEF 2023 Conference.

PROJECTS

1. Design of a Multi-Terrain Navigating Hexapod — Internally Funded Project. October 2022 - Present

- Development of a robotic arm for object detection and picking.
- Use of Object Recognition, Computer Vision, and Deep Neural Networks to remove obstacles hindering navigation.
- **Tech Stack:** Object Recognition, Computer Vision, Deep Neural Networks, Adaptive Navigation.

2. VoidVoices Web Application — KLA Hackathon.
February 2023

- Developed a solution of **sign language** and braille conversion to revolutionize accessibility for the differently-abled.
- Implemented a deep learning model to convert signs to text, utilizing OpenCV and TensorFlow.
- **Tech Stack:** Deep learning (OpenCV, TensorFlow), HTML, CSS, JavaScript.

3. PennyWise-Expense Management System — Miniproject of cirriculum
January 2023 - April 2023

- Developed the UI and validation for the signup and login pages and created logic for balancing expenses.
- **Tech Stack:** Java Servlets, JavaServerPages(JSP), MySQL, HTML, CSS, JavaScript.

4. Immunization Effectiveness in Rural areas — Machine Learning
October 2022 - December 2022

- Developed machine learning models (Random Forest, SVM, Decision Tree) to predict immunization effectiveness using collected rural area data.
- Analyzed data through data visualization and Implemented data preprocessing, feature engineering, and hyper-parameter tuning for model optimization.
- **Tech Stack:** Python, Scikit-learn, Numpy, Pandas, and Matplotlib.

5. Airline Reservation system — Big Data Analytics
September 2022

- Utilized Apache Kafka for real-time data streaming(Java) within the Airline Reservation System, enabling seamless data flow.
- Analytical features of Apache Spark and Spark SQL were used to perform analysis extracting insights from the reservation data.
- **Tech Stack:** Java, Apache Kafka, Apache Spark, Spark SQL, Big Data Analytics.