

# SHARATH PAI

FRONT END DEVELOPER & ML ENGINEER

+1-234-567-890 | sharathpai107@gmail.com | /sharathpai107 | /Sharath1036 | /sharathpai.vercel.app

Examination	Majors	Institute	Year	CPI/%
Graduation	Electronics & Communication	D.J. Sanghvi College of Engineering	2020-2024	7.6
Intermediate	Science	Patkar Varde College of Arts & Science	2018-2020	83.23
Matriculation	Science	Dr. S. Radhakrishnan Vidyalaya	2006-2018	90.80

## PROFESSIONAL EXPERIENCE

### Machine Learning Intern | Intern Career

Oct 2023 - Present

- Developed and fine-tuned Machine Learning models resulting in 70% classification accuracy.
- Utilized R and its essential libraries addressing challenges like outliers, missing values and dummy variables.
- Produced data visualizations and enhanced model performance through data preprocessing and feature engineering.

### Web Development Intern | Suvidha Foundation

Sep 2023 - Oct 2023

- Developing a **MERN Stack** website for patients to remotely monitor their health.
- Used the **Healthie's Scheduling API** for scheduling appointments with doctors nearby.
- Node MVC Architecture** is used to create and integrate the Frontend and Backend of the website.

## PROJECTS

### Data Science & Machine Learning

#### Cats & Dogs Classifier using Deep Learning | R

Oct 2023

*Self Project*

[Project Link](#)

- Utilized a dataset of about **25,000 images from Kaggle** for the training and testing of the binary classifier.
- The input data was augmented using **Tensorflow** and **Keras** functions and then fed to the Model.
- The training model had a **Convolutional layer** followed by Max Pooling Layer and fully connected neural network.

#### Analysis of Movies | R

Oct 2023

*Self Project*

[Project Link](#)

- We predict the **Box Office Collection** (Regression) & **Oscar Recognition** (Classification) using **Decision Trees & SVM**.
- In the **Regression** model, the **Random Forest** model provides the least error rate of **43 million**.
- In the **Classification** model, the **Bagging Ensembling Technique** provides the highest accuracy of **67.28%**.
- In the **SVM Analysis**, we get a **Linear** relationship of our classification model with an accuracy of **61.68%** for **Cost=10**.

#### House Price & Sales Prediction | R

Apr 2023

*Self Project*

[Project Link](#)

- Utilized the **Boston Housing dataset** to predict **House Price** (Regression) and its **Sales in 3 months** (Classification).
- In the **Regression** model, we got the best **RSS** of **1.049166** with **Lasso Shrinkage Method**.
- In the **Classification** model, we got the best accuracy as **66.6%** from **Linear Discriminant Analysis** model.

## Development

### Science Mission Website | ExpressJS, Handlebars

Ongoing

*Science Mission, Dallas, USA*

(Expected by Mar '24)

- Creating a freelance website that contains several articles related to science along with the videos as remedy.
- Each article has its own category and the user can filter out the articles based on their choice of category.
- I am creating the **backend** routes using **ExpressJS** and using the **Handlebars** template engine for the **design**.
- The **Node MVC Architecture** will be used for integrating the frontend and the backend.

### Blogpage | ExpressJS, Handlebars

Sep 2023

*Self Project*

[Project Link](#)

- Created a blogpage in which showcase my written blogs.
- I am thinking of converting this website to a **dynamic website** in which the user can create and publish their own blogs in which the data can be dynamically passed through a database, preferably Mongoose.

### Swift UnderGrads Website | ReactJS

Jul 2023

*Swift UnderGrads*

[Project Link](#)

- Developed a fully responsive **Frontend** educational website for our community which helps students in getting their desired study material.
- It is a static website and further I am planning to create a portal for various events conducted by the team and a **blockchain** powered **payment gateway** for secure transactions.

# PUBLICATIONS

---

## Predictive ML for Educational Decisions

Nov 2023

*International Conference on Emerging Research in Computational Science*

- Using supervised learning algorithms, we analyze various trends revolving Engineering admissions.
- Created a custom dataset from scratch involving around 400 observations of 17 variables for training and test sets.
- Referred model architecture from **Comparison of Regression Models for Prediction of Graduate Admissions** paper.
- Evaluation was done by finding most significant features and noting its effect on metrics (MSE, R<sup>2</sup>, Accuracy).

## Audio Source Separation as applied to Vocals-Accompaniment Separation

Mar 2022

*DJS Strike*

ISBN: 978-93-5578-944-0

- Built a system for extracting the vocals from tracks composed of vocals, instruments and computerized sound effects.
- The training dataset is composed of the tracks for the composite 'mix' and the accompanying vocals.
- The output audio is obtained by **postprocessing** this spectrogram using the inverse short-time **Fourier transform**.

# TECHNICAL SKILLS

---

Programming	C, JavaScript, R, Solidity, SQL
Development	Bootstrap, ExpressJS, Handlebars, NodeJS, ReactJS
Data Science	Keras, Tensorflow
Design	Figma, Illustrator, Photoshop, Wordpress
Tools	Git, GitHub, MySQL, VSCode

# KEY COURSES UNDERTAKEN

---

## Mathematics and Statistics

- Calculus, Probability, Statistics, Data Preprocessing, Regression Models, Classification Models, Ensemble Techniques, Support Vector Machines, Artificial Neural Networks, Convolutional Neural Networks, Transfer Learning, Time Series

## Computer Science

- Structured Programming Approach, Data Structures and Algorithms, Operating Systems, Computer Networks

# POSITIONS OF RESPONSIBILITY

---

## Founder & Tech Lead

Feb 2022 - Present

*Swift UnderGrads*

- A community running of telegram, we aim to help **MHT-CET aspirants** by guiding them regarding admission process.
- I lead a **team of 12 members**, all belonging to different areas in Maharashtra. My job is to mentor aspirants and look after the social handles.
- We conduct various **webinars** to help students with their studies and make them clear about the admission process and further career opportunities. Till now we have helped **1000+** students in their journey.
- I also **created a website** which helps students to get their desired study materials.

## Head of Public Relations & Social Media

Nov 2021 - Apr 2023

*DJSCE IETE*

## Head of Graphics

Mar 2022 - Oct 2022

*DJS eXpress*

# ACHIEVEMENTS & CERTIFICATIONS

---

- **Smart India Hackathon** 2023 finalist.
- Runner Up in **DJS Strike Innovative Project Development** 2022 Competition.
- Finalist in Pixel Paranoia UI/UX Hackathon.
- Completed 30 Days of **Google Cloud**.
- Certification in 30 Days of **Solidity Challenge**.
- 5 stars in **Hackerrank C**.