# Yash Agrawal

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## EDUCATION

**Indian Institute of Technology, Madras**                                          2022 – 2026
*B.S. Data Science and Application*                                      *Current GPA: 8.91/10.0*

**Courses:** AI, DL, Machine Learning Techniques, Tools in Data Science, Programming, Data Structures & Algorithms, System Commands, Linear Algebra, Probability & Statistics

## SKILLS

**Languages**: Python, JavaScript, HTML/CSS, SQL,
**Libraries**: Pandas, NumPy, Matplotlib, Scikit-learn, Pytorch, Huggingface
**Tools/Frameworks**: Git/GitHub, Docker, Unix Shell, Linux, VS Code, Tableau, Flask, FastAPI, Vue

## EXPERIENCE

**Football Chatbot Project** | *Freelance Developer*                                    July 2024

- Enhanced web scraping robustness for retrieving player skills and team statistics from FBRef, improving data reliability and accuracy.
- Developed a new route for a tactical dashboard feature, enabling real time analysis and session planning for users.
- Contributed to a Dockerized architecture deployed on cloud server, integrating frontend, API, and action servers for scalable and modular deployment.

## PROJECTS

**Home Service** | *Vue, Python, Flask, SQLAlchemy, JWT, Redis, Celery, Github*            Oct. – Nov. 2024

- Engineered a Flask-Vue.js home services platform with JWT authentication, implementing role-based access control for administrators, professionals, and customers while integrating Redis caching for optimized API performance.
- Implemented automated background tasks using Celery for service monitoring and reporting, while developing responsive admin/professional dashboards with ChartJS to visualize service analytics, revenue metrics, and booking statistics.

**Volatility Forecasting in India** | *Python, Pandas, NumPy, SciPy, Statsmodels, Time Series Forecasting*   May 2024

- Data Acquisition and ETL: Retrieved data from web APIs using HTTP requests; transformed and loaded data into a SQL database with custom Python classes.
- Modelling and API Development: Calculated asset volatility and developed a GARCH model to predict it; built a web API to serve model predictions.

**Recipe Rating Prediction** | *Pandas, NumPy, Scikit-learn, Matplotlib, Word Embedding Techinques*   March 2024

- Data Preprocessing and Feature Engineering: Cleaned textual data handled missing values and used TF-IDF for text data transformation.
- Model Development and Handling Imbalanced Data: Built predictive models (Logistic Regression, Random Forest, Gradient Boosting, XGBoost) and addressed data imbalance using SMOTE and class weight adjustments.
- Model Evaluation: Conducted hyperparameter tuning and evaluated models using accuracy, precision, recall, F1-score, and k-fold cross-validation to achieve competitive accuracy.

**TuneIn - Music Streaming Application** | *HTML, CSS, Python, Flask, SQLAlchemy , Github*   Oct. – Dec. 2023

- Music Streaming Platform: Developed a web application for streaming music with frontend and backend integration.
- User Authentication and Data Management: Implemented secure user authentication and managed user data using Flask-SQLAlchemy.