

# Prakash V.S. Tomar

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## Education

- Institute Of Engineering and Management** Kolkata, India  
*Bachelor of Technology - CSE(specialization in AIML); GPA: 9.62* November 2020 - August 2024  
*Courses: OOPs, Computer Networks, Data Structures, Database Management, Machine Learning, Algorithms, OS, Artificial Intelligence*

## Skills Summary

- Languages** JAVA, Python, SQL, Bash, C
- Frameworks** Numpy, Pandas, Matplotlib, Scikit-Learn, Plotly, TensorFlow, Keras, PyTorch, Seaborn
- Tools** Jupyter Notebooks, Excel, VS Code, Tableau, MongoDB, GIT, MySQL, OracleDB, Google Colab
- Platforms** Windows, Linux, Raspberry Pi, Kaggle, Arduino
- Soft Skills** Team Coordination, Event Management, Public Speaking

## Experience

- HappyMonk.ai ( Data Science Intern)** October 2022 - April 2023 (Remote)
  - Automation Pipelines** : Created a fully automated pipeline that fetched annotated datasets and extracted information to parse into a single CSV, **reducing data-processing time by 45%**.
  - Model Training** : **Improved performance** of Object Detection and Activity Recognition models **by 18%** through training and inference on *YoloV5* and *MMAction2*.
  - Metadata Management** : **Improved accuracy** of spatial pothole density calculations **by 30%** by extracting GPS data from videos and manipulating it.
  - Data Annotation and Integration** : **Annotated 6000+** images and videos and utilized *MongoDB* and *PyMongo* to integrate data on the server for multiple projects' datasets.

**Tools used:** *DeepFace, YoloV5, MMAction2, CVAT, PyMongo, MongoDBCompass, MySql, EXIF tool, Coco-Annotator, LabelMe, ImgLab, PyTorch*

## Projects

- FaceFlix : A Facial recognition based Movie Recommender/ [Github](#)**  
Developed and implemented a movie recommendation system that leveraged **Computer Vision**, deep learning algorithms (**DeepFace, Tensorflow**), and IMDB APIs.  
Can increase user engagement by 20% and reduce churn rate.
- Payload Drone (Developed under Prof.Modhumita Pal)/ [Demo Video](#)**  
Constructed a bidirectional system using **Raspberry Pi 4 and Arduino** to collect data from sensors(CO, Temperature, and Humidity) through drone and feed it to the Base station.  
Incorporated a Decision tree model to classify whether the pollution data is harmful to health through **Scikit-Learn**.
- BabySitter Checker : Artificial Caretaker**  
Converted sample audio files into array format through Fourier transformation to train the model for classifying anomalies in the data through **Scikit-Learn fft** module.  
This model could detect any unusual behavior of the babysitter and inform parents immediately about the issue.

## Publications

- Review Paper: Machine Learning - A New Perspective.** **Certificate** **Paper**  
Presented in IEMPOWER 2022 where the introductory topics of Machine Learning and the selection between inference VS predictability were discussed. ( *In Publication by AIP Publishing* )

## Honors and Awards

- Secured **301st** place among 4898 teams in **Amazon ML Challenge-2023**.
- Completed **HacktoberFest 2021** by contributing to 5 various repositories.
- Won Internal Hackathon of **Kavach-2023** from IEM, Kolkata.
- Finalist(Top 6) in Table Topics Event at **ToastMasters International**, representing Kolkata's District 41. [Link](#)
- Ranked in **Top 10 in Intelligex**(ML-based hackathon) at IEM Annual Tech-Fest (Innovacion) in April 2022.
- Earned **Diploma in Indian Classical Music**(Vocal) in August-2019

## Achievements

- Machine Learning Co-Lead at IEM Coding Club** Kolkata, India  
*Conducted Data Science and Analytics Workshops which impacted 300+ students.* August 2022 - Present
- AI/ML Core Member at GDSC IEM** Kolkata, India  
*Organized ML-related events and conducted workshops for the students of IEM* August 2022 - Present