

# SWAPAN KUMAR SARKAR

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## PROFILE SUMMARY

Results-driven and detail-oriented Machine Learning Engineer with a strong foundation in mathematics and expertise in machine learning, deep learning, and computer vision. Passionate about solving real-world problems using AI and building scalable solutions. Experienced in developing models and algorithms for image processing, object detection, and classification. Dedicated to continuous learning and leveraging technology to drive impactful outcomes.

## HIGHLIGHTS

- **Programming Languages:** Python, Django(framework)
- **Machine Learning Frameworks:** TensorFlow, Keras
- **Machine learning Skills:** Missing value handling, Encoding, Outlier handling, Feature scaling, Feature selection technic, Regularization, Confusion matrix, Cross validation, Bagging technic
- **Machine learning models:** Multiple linear regression, Polynomial regression, Logistic regression, Naïve bayes, Decision trees, SVM, KNN, Random forests, k-means clustering, Hierarchical clustering, DBSCAN clustering, Apriori algorithm, FP growth algorithm
- **Deep learning models:** ANN, CNN, RNN
- **AI Techniques:** Machine Learning, Deep Learning, Computer Vision
- **Tools and Libraries:** NumPy, Pandas, Scikit-learn, OpenCV
- **Computer Vision Libraries:** OpenCV
- **Image and Video Processing:** Segmentation, detection, classification, tracking
- **Preprocessing Techniques:** Augmentation, normalization, histogram equalization, noise reduction, feature extraction, contour extraction
- **Front-end Skills:** HTML, CSS, JavaScript
- **Back-end Skills:** Python, Django(framework)
- **Database Skills:** MySQL
- **Git & GitHub :** working knowledge of version control system on (e.g., Git) .

## ACCOMPLISHMENTS

- **Predictive analytics:** Developed predictive analytics models for loan approval processes, utilizing supervised machine learning techniques to optimize decision-making and risk assessment
- **House Price Prediction:** Developed analytics model on house price datasets, utilizing machine learning techniques to predict house price
- **Image Classification:** Developed a CNN model for cat and dog image classification using advanced augmentation techniques
- **Object Detection & tracking:** Built solutions for pedestrian detection, smile detection, and vehicle tracking from video streams

## WORK EXPERIENCE

- **Practitioner Machine Learning Engineer**, Self-Employed (June 2024 – Present, Remote)  
I worked on various predictive model by using ML techniques.
- **Internship (Data Science)**, Alfido Tech (4 months 2024, Remote)  
**Project 1:** Analyze a Zomato Datasets and create Visualization.  
**Project 2:** Loan Aproval prediction case study.
- **Network Engineer**, Nipun Net Solution Pvt Ltd (June 2023 – June 2024, Kolkata)  
**Roles & Responsibilities:** handling network project .

- **Network Support Engineer**, Informatics Technologies Pvt Ltd (August 2022 – November 2022, Gujarat)  
**Roles & Responsibilities:** office network infrastructure support.

- **Various Engineering Roles(Software Eng. ,System Eng.)**, IMSI Staffing, Precision TechServe , Aidni Infotech (2019 – 2022, WB)  
**Roles & Responsibilities:** web development back-end and front-end software support. Discuss with clients to understand requirement.

- **Private Tutor (Mathematics)**, Self-Employed (2014 – 2019, WB)

## QUALIFICATION

- **B.Sc. in Mathematics, University of Calcutta, 2014 (48%)**
- **Higher Secondary (Science), W.B.C.H.S.E, 2011 (62.50%)**

## CERTIFICATES

- **Machine Learning:** WsCubeTech (June 2022 – November 2024)
- **Deep Learning:** WsCubeTech (June 2022 – November 2024)
- **Computer Vision:** WsCubeTech & Great Learning (June 2022 – November 2024)
- **Python Programming & Django:** Great Learning , Coursera, WsCubeTech (November 2019 – June 2024)
- **HTML, CSS, JavaScript:** Coursera, Great Learning(January2018 – June 2019)
- **MYSQL:** Great Learning (December2019– June 2020)

## SOFT SKILLS

- Problem-Solving
- Communication
- Collaboration
- Time Management
- Critical Thinking
- Adaptability

## PERSONAL DETAILS

- Date of Birth: February 3, 1992
- Languages Known: Bengali, English, Hindi
- Nationality: Indian
- Marital Status: Unmarried

