Guruprasad Parasnis

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EDUCATION

University of California San Diego — **La Jolla, CA , USA**
Master of Science in Data Science — *Sept 2024 - Present*

Sardar Patel Institute of Technology — **Mumbai, Maharashtra, India**
Bachelor of Technology in Electronics and Telecommunication — *Aug 2020 - June 2024*

TECHNICAL SKILLS

Programming Languages: Python, Java, C++, SQL
Libraries and Tools: Tensorflow, PyTorch, Sklearn, Pandas, Numpy, OpenCV, MATLAB, Power BI, SQL Workbench, Oracle Live
Analytics: Linear Algebra, Calculus, Probability, Statistics, Data Mining, Feature Engineering, Data Visualization
Certifications: Deep Learning certified by Indian Institute of Technology Kharagpur

WORK EXPERIENCE

Research Intern
Indian Institute of Technology Bombay, India — *Jan 2023 - June 2024*

- Applied multiresolution methods to build a novel deep learning architecture and implemented a contactless fingerprint recognition application with an Equal Error Rate of 2.5%
- Authored two technical papers for efficient and economic architectures in state-of-the-art biometric recognition

Deep Learning Intern
AIDL Virtual Labs, India — *Sept 2022 - Dec 2022*

- Worked on research which focuses on heart and cardiovascular diseases risk predictions and ECG analysis using predictive analysis techniques
- Developed and worked with deep learning models such as Autoencoders, PoseNet etc and deployed them on an interactive website as simulations to make AI understandable

PUBLICATIONS

- PIXIE : A Novel Loss Function for Binary Semantic Segmentation - IEEE Transactions on Pattern Analysis and Machine Intelligence Link
- Advancing Diagnostic Precision: Leveraging Machine Learning Techniques for Accurate Detection of Covid-19, Pneumonia, and Tuberculosis in Chest X-Ray Images - Springer Nature Link
- VerifNet - A Novel Score Fusion-Based Method Leveraging Wavelets with Deep Learning and Minutiae Matching for Contactless Fingerprint Recognition - IEEE Transactions on Biometrics, Behaviour and Identity Science Link
- RoadScan: A Novel and Robust Transfer Learning Framework for Autonomous Pothole Detection in Roads - 7th IEEE Conference on Communication and Information Technology Link
- GARP - A Hybrid Preprocessing Technique for Semantic Segmentation of Satellite Images with U-Net Architecture - 2nd IEEE Conference on Futuristic Technolgies Link
- L-WaveBlock: A Novel Feature Extractor Leveraging Wavelets for Generative Adversarial Networks - 2nd IEEE Conference on Futuristic Technolgies Link
- Economy and Explainability with Non-Separable Wavelet based CNN and Generative Modelling - 9th International Conference on Computer Vision and Image Processing

PATENTS

- **Real-time Obstacle Detection and Response System for Safer Driving**, This invention relates to the field of sensor technology and machine learning to integrate an intelligent solution for dynamic mapping of potholes, and marked and unmarked speed bumps with the help of an interface to provide easy information to drivers related to dangers from these obstacles on the road.
- **EyeSpy Analytics - An Advanced CCTV Analytics Solution**, This innovation applies to the field of computer vision and video analytics for speedy notification of crime detection from CCTV footages

PROJECTS

- **AI-Assistant StudyPat for Children**, Developed 4 AI tools along with a React.js application and implemented a posture detection model, a drowsiness detector, autocorrection and text-to-speech recognition Link
- **Heart Diseases and Cardiac Anomalies Risk Prediction**, Implemented an ML model to predict the risk of heart attacks and other anomalies on a dataset comprising of 1000 people with 92% accuracy