Ranjeet Singh

I'm a passionate and hands-on data scientist with both industrial and academic research experience in Machine learning and Deep learning. I'm especially fascinated about deep learning inspired computer vision but I'm also keen to dive into classical Computer Vision. My experience involves applications of Deep learning to Speech Recognition and Computer Vision both. With these skills, I have assisted my organisations in improving the user experience of their products and services.

Data Scientist
at Roadzen, New Delhi, India
+919041362736
ranjeetthakur1993@outlook.com

Skills

Python, Tensorflow, Keras, OpenCV

Docker, BigQuery, GCP, SQL, MySQL

HTML, CSS, Javascript

Experience

Roadzen, New Delhi

Data Scientist, Oct 2018 till now
Working on classical and deep learning based computer vision with application to insurance Primarily focused on building artificial intelligence systems for automating claim process, detecting damages and frauds

Quantiphi Inc., Mumbai

Machine Learning Engineer, Feb 2018 - Sept 2018
Worked on state of the art Language Modelling techniques for Speech Recognition for Trading domain

Jugnoo, Chandigarh

Data Scientist, Jan 2017- Feb 2018
Built data driven intelligent applications for Jugnoo's various verticals

Education

Bachelor of Technology, 2016 - Major in Electronics Minor in Computer science

Lovely Professional University

Master of Technology, Dropout - Digital Signal Processing

Lovely Professional University
Thesis - Demographics estimation using Deep learning
Thesis overview - *This work tackles the problems of demographics estimation from image and video with potential application in targeted advertising.*

Research

MIDAS Lab, IIIT Delhi - Visiting Researcher - Dec 2018 - May 2019

Computer Vision and Speech Recognition

Research Fellow - School of AI - June 2019 till now

Computer Vision

Publications

Gender classification techniques from Machine learning to Deep learning

International Journal of Control Theory and Applications

Projects

Demographics Estimation using Deep Learning

Objective- Build demographics estimation model using Deep Learning
Role
- Used transfer learning approach for predicting gender towards unfinished dissertation
- Used Matlab's Computer Vision toolbox
- Trained SVM on extracted features of AlexNet
Tools used - Matlab Computer Vision and Neural Network Toolbox

Damage Recognition Engine for Motor Insurance

Objective- Build a Damage Recognition Engine using semantic segmentation and object detection to estimate the claim amount for motor insurance
Role
- Formulated the problem, conducted literature review for relevant computer vision techniques
- Got the data labelled by Ops team with in-house tagging tool
- Trained object detection and semantic segmentation model with .65 MAP score on 100k images
- Model hyper parameter tuning by random search and grid search
- Deployed model with Tensorflow-serving in production
Tools used - Python, Tensorflow, Keras

Speech Recognition for Trading - Cloud9

Objective: Build a Speech To Text model for trading for JP Morgan. This is called Cloud9, Cloud9 is Deep learning based ASR model trained on 4000 hours of trading speech data incorporates state of the art research papers in the domain of speech and language
Role
- Implemented class based language model, language model interpolation
Hierarchical Language Model Switching
Objective : Predict most probable language model for given audio
- Build a CNN-LSTM architecture for dynamic language model switching while inference for Cloud9
- Provides dynamic LM selection out of 50 interpolated language models

Probabilistic Ride Allocation Modeling for Jugnoo Autos

Objective - Build a probabilistic model for continuous ride-acceptance probability assignment to Jugnoo drivers.
Role
- Worked with sole ownership of project
- Extracted data from MySQL database, Data preprocessing, Feature engineering
- Model building, hyper-parameter tuning

- Designing REST endpoint for production use

Tools used- SQL, Bigquery, Python, Scikit-learn, Flask

Seminars & Achievements

University Of San Francisco - International Fellowship, 2018
Presented paper in International Conference on Intelligent Circuits and Systems 2016
Attended workshop on Computational Social Systems, 2018
Computer Vision Summer School, IIIT-Allahabad, 2019

Blogs

https://medium.com/@ranjeet_thakur
