Ishwar Sawale

Data Scientist · Machine Learning Researcher

(+91) 82-3744-2227 | ishwarsawale@gmail.com | ishwarsawale.com | ishwarsawale | ishwarsawale | @ishwarsawale

Summary

I have 2.8+ years experience in Data Science. Currently, I am working with Mindstix Software Labs as Data Scientist & Computer Vision Researcher. At Mindstix I am working on Recommendation, ChatBot & Computer Vision Systems.
Prior to Mindstix, I was working with Coriolis Technologies Pvt Ltd for 2 years as Machine Learning Engineer.

Education

Diploma in Big Data Analyatics — *Pune, India*

CDAC-ACTS PUNE — *Aug 2015 - Feb. 2016*

- Achived grade A with 70.00%

BE inElectronics & Telecommunication — *Pune, India*

University Of Pune — *Aug. 2011 - May. 2014*

- Achived Distinction with 69.33%

Diploma in Electronics & Communication — *Mumbai, India*

MSBTE, Mumbai — *May. 2008 - Aug. 2011*

- Achived Distinction with 85.38%

Work Experience & Responsibility

Mindstix Software Labs — *Pune, India*

Data Scientist — *Feb. 2018 - PRESENT*

- Recommendation Systems for Retail Business
- ChatBot Framework
- Face Recognition Systems
- Algorithm Design
- Computer Vision Systems

Coriolis Technologies Pvt Ltd — *Pune, India*

Member of Technical Staff — *Mar. 2016 - Feb. 2018*

- Developer & Scrum Master for Cloud Team
- Rails Backend Development for Orchestration tool
- Development of Ansible, Chef and Puppet configuration managers
- License Plate Recognition, Face Recognition

Skills & Courses

Tools	Git, LaTeX
Stacks	MongoDB, MySQL, Neo4J
Languages	C, Python, Java, Go, R
Frameworks	Ruby On Rails
Web Technologies	HTML
Machine Learning	Tensorflow, Keras, Pytorch, OpenAI

Courses

- Structuring Machine Learning Projects by deeplearning.ai on Coursera
- Neural Networks and Deep Learning by deeplearning.ai on Coursera
- Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization by deeplearning.ai on Coursera
- Recommender Systems: Evaluation and Metrics on Coursera
- Nearest Neighbor Collaborative Filtering on Coursera
- Matrix Factorization and Advanced Techniques on Coursera
- Introduction to Recommender Systems: Non-Personalized and Content-Based on Coursera
- Fundamentals of Digital Image and Video Processing by Northwestern University on Coursera
- Mathematics for Machine Learning: PCA by Imperial College London on Coursera
- Mathematics for Machine Learning: Multivariate Calculus by Imperial College London on Coursera
- Mathematics for Machine Learning: Linear Algebra by Imperial College London on Coursera
- Mathematics for Machine Learning, a 3-course specialization by Imperial College London on Coursera
- How Google does Machine Learning by Google Cloud on Coursera

Machine Learning Section

Product Learning ChatBot — *Mindstix Software Labs Project*

Tensorflow, Deep Learning, Python — *Current Project*

- This bot helps user to learn about certain products
- User can ask questions specific product & reply to user is fetched in real-time from database

Facial Key Point Detection — *Open Source Contribution*

Tensorflow, Keras, Python

- Faceial Key point detection model trianed on Kaggle Dataset.
- Trained Various models Using Keras & Tensorflow, with multiple optimizers.

Chatbot Framework — *Mindstix Software Labs Project*

NLP, LSTM, RASA, Python, Flask

- This is Deep Learning based Chatbot used by customer in production
- End to End integation of bot with with REST API's

Neural Style Transfer App — *Open Source Contribution*

CNN, Python, Kivy

- This app is a TensorFlow implementation of the paper A Neural Algorithm of Artistic Style by Leon A. Gatys, Alexander S. Ecker, and Matthias Bethge.
- The paper presents an algorithm for combining the content of one image with the style of another image using convolutional neural network.

Prodcutivity ChatBot — *Open Source Contribution*

NLU, Flask, Slack

- Track How many time spend on which task. Based on given input this bot extracts intent & slots using NLU
- When each intent is detected related web service is executed

User-User Collaborative Filtering — *Mindstix Software Labs Project*

Neo4J, Python

- Personalized recommender algorithm which learn from past agreements to predict future agreements
- It uses the concept of similarity in order to identify users
- Instead of traditional approach of matrix factorization, Graph database is used

User-Item Content Based Filtering *Mindstix Software Labs Project*

TensorFlow, Python

- Singular Value Decomposition (SVD) is used to estimate the size of the basket that we want to predict
- In the second step, we will predict n products which we believe that user will buy in his next order
- TensorFlow based implementaion of SVD

Face Recognition System *Mindstix Software Labs Project*

Facenet, Dlib, SVM, KNN, Python

- From Facenet and Dlib face embedding extracted
- Based on obtained embedding three diffrent classification models are trained
- To tackle uknown person problem and increase accuracy, these three models stacked together

Face Recognition Library *Open Source Contribution*

Facenet, Python

- Face Recognition working with one API call
- Based on Facenet, available as pip package

License Plate Recognition System *Coriolis Tech Project*

OpenCV, Deep Learning, Python

- This project was used to auto-detect License Plate in car and fetch license number
- I have used OpenAlpr library along with handcrafting features for License Plate detection
- Custom OCR was trained and used to predict each individual number from license plate

Real Time Face Recognition *Open Source Contribution*

Python, Tensorflow, Facenet, Keras

- This project was to detect and recognise faces in real time(in video)
- Apart from Traditional methods of face recognition, I have used embedding of two faces as measure to differentiate them
- Pretrained model from Facenet is retrained for my dataset
- I have taken video frame at x miliseconds
- After that, created embedding and compared with model for each frame

Festival Recognition App *Open Source Contribution*

Java, Tensorflow, Android

- This is an android app, which detects type of Indian Festival after taking image from Camera or gallery
- For this app I have collected thousands of images for Holi, Diwali, Eid, Birthday, Marriage
- Then I used Inception V4 model from ImageNet and retrained it on above dataset
- This retrained model is optimised for Android by rounding graph and making it compitable for android platform

Hand written digits classification *Open Source Contribution*

Java, Tensorflow, Android, Keras

- This is an android app, which detects number drawn by user between 0 to 9
- I have used MNIST dataset for training two diffenet model with Tensorflow and Keras
- User can draw any digit and prediction from two models are given

Cancer Survival Prediction *CDAC Project*

R

- This was group project. My role was to develop & predict model for survival of patients
- Dataset was obtained from seer.cancer.org and it has various cancer types with patients data
- Hypothesis was if cancer is detected in early stage and at early age then chances of patients survival are more

Core Development Section

True Skin Tone Color Detection *Mindstix Software Labs Project*

Python, OpenCV, Image Processing *Current Project*

- Alogrithm development to get true skin color from image, independent illumination conditions
- Color diffrence ΔE between photospectrometer and developed algorithm is < 2.38

Data Migration Scripts *Mindstix Software Labs Project*

Python, LDAP, Oracle DB

- Data Migration From Oracle DB to LDAP using Python

Orchestration Chef, Puppet, Ansible *Coriolis Tech Project*

Rails, Mongo, Chef, Puppet, Ansible,

REST API

- I was working as Team Lead and Lead Developer for this project
- Use case is - client have certain products that need to be managed using configuration manager
- Using either Chef, Puppet or Ansible, we can perform job like install agent, register agent, upgrade agent etc

Soap client in C *Coriolis Tech Project*

C, SOAP

- I maintained & added new features

REST API client in GO Lang *Coriolis Tech Projectt*

Go, REST Client

- I developed this app, which is replacement of curl

Automate Instance Creation AWS *Coriolis Tech Project*

Bash, AWS CLI, AWS

- Tool for migration of VMware vSphere OVA to AWS AMI

Rails Backend Development *Coriolis Tech Project*

Ruby, Rails, Mongo, REST API

- It was dating app, just like tinder
- REST API implementation for various feature request

Android Apps in Kotlin *Open Source Contribution*

Kotlin, Android

- Android Apps using Kotlin language