

Ishwar Sawale

DATA SCIENTIST · MACHINE LEARNING RESEARCHER

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Summary

I have 2.5+ years experience in Data Science. Currently, I am working with Mindstix Software Labs as Data Scientist. At Mindstix I am working on Recommendation, ChatBot & Face Recognition Systems. Prior to Mindstix, I was working with Coriolis Technologies Pvt Ltd for 2 years as Machine Learning Engineer.

Education

Diploma in Big Data Analytics

CDAC-ACTS PUNE

- Achived grade A with 70.00%

Pune, India

Aug 2015 - Feb. 2016

BE in Electronics &

Telecommunication

UNIVERSITY OF PUNE

- Achived Distinction with 69.33%

Pune, India

Aug. 2011 - May. 2014

Diploma in Electronics &

Communication

MSBTE, MUMBAI

- Achived Distinction with 85.38%

Mumbai, India

May. 2008 - Aug. 2011

Work Experience & Responsibility

Mindstix Software Labs

DATA SCIENTIST

- Recommendation Systems for Retail Business
- ChatBot Framework Based on RASA NLU
- Face Recognition Systems

Pune, India

Feb. 2018 - PRESENT

Coriolis Technologies Pvt Ltd

MEMBER OF TECHNICAL STAFF

- 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

Pune, India

Mar. 2016 - Feb. 2018

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

- Neural Networks and Deep Learning by deeplearning.ai on Coursera
- Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization by deeplearning.ai on Coursera
- Structuring Machine Learning Projects by deeplearning.ai on Coursera
- Artificial Intelligence A-Z Learn How To Build An AI on Udemy
- Deep Learning A-Z Hands-On Artificial Neural Networks on Udemy
- Practical Deep Learning with PyTorch on Udemy
- Machine Learning A-Z Hands-On Python & R In Data Science on Udemy
- The Complete Android Kotlin Developer Course on Udemy
- Complete iOS 11 Machine Learning Masterclass Course on Udemy
- Deep Learning and NLP A-Z™: How to create a ChatBot on Udemy
- Complete Guide to TensorFlow for Deep Learning with Python on Udemy
- CWorkshop in Probability and Statistics on Udemy
- Building Practical Recommendation Engines on Udemy
- ChatBots: Messenger ChatBot - DialogFlow and nodejs on Udemy
- Introduction to Recommender Systems: Non-Personalized and Content-Based on Coursera
- Nearest Neighbor Collaborative Filtering on Coursera
- Recommender Systems: Evaluation and Metrics on Coursera
- Matrix Factorization and Advanced Techniques on Coursera

Machine Learning Section

Prodcutivity ChatBot

Open Source Contribution

NLU, FLASK, SLACK

- Based on given input this bot extracts intent & slots using NLU
- When each intent is detected related web service is executed

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 integration of bot with REST API's

Face Recognition Library

Open Source Contribution

FACENET, PYTHON

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

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, PYTHON

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

License Plate Recognition System

[Coriolis Project](#)

OPENCV, 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

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

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 compatible 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 different model with Tensorflow and Keras
- User can draw any digit and prediction from two models are given

Data Science Section

Ghouls, Goblins and Ghosts

[Open Source Contribution](#)

NUMPY, PANDAS, SKLEARN

[kaggle.com](#)

- "Ghouls, Goblins, and Ghosts... Boo!" dataset from Kaggle.com
- Classify monsters based on input parameters
- Used SVM, RandomForest classifiers

Machine Learning from Disaster

[Open Source Contribution](#)

NUMPY, PANDAS, SKLEARN

[kaggle.com](#)

- "Titanic: Machine Learning from Disaster" dataset from Kaggle.com
- This is a binary classification problem
- Predict whether passenger survived or not

Publication Section

AI Chat-Bot for Productivity

[Open Source Contribution](#)

MEDIUM ARTICLE

[June 2018](#)

- Bot that understands user's input sentence and extract intent and slots, based on intents call backend service

Visual Search Engine and Indexing with Machine Learning Techniques

[Open Source Contribution](#)

MEDIUM ARTICLE

[June 2018](#)

- Visual search engine with ML Techniques

Image classification using GO Lang

[Open Source Contribution](#)

MEDIUM ARTICLE

[May 2018](#)

- Article about image classification using Go lang

Real time Face Recognition Article

[Open Source Contribution](#)

LINKDIN ARTICLE

[Sep 2017](#)

- Article about Face Recognition in Video

REST Client in GO

[Open Source Contribution](#)

LINKDIN ARTICLE

[Sep 2017](#)

- Article about writing curl like tool in GO lang

Indian Festival Recognition App

[Open Source Contribution](#)

LINKDIN ARTICLE

[Aug 2017](#)

- Article about how to retrain Inception V4 model & use it in Android app

MNIST Demo on Android

[Open Source Contribution](#)

LINKDIN ARTICLE

[Aug 2017](#)

- Article about using TensorFlow in Android app

Core Development Section

Data Migration Scripts

[Client Project](#)

PYTHON, LDAP, ORACLE DB

- Data Migration From Oracle DB to LDAP using Python

Orchestration Chef, Puppet, Ansible

[Client 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

[Client Project](#)

C, SOAP

- I maintained & added new features

REST API client in GO Lang

[Client Project](#)

GO, REST CLIENT

- I developed this app, which is replacement of curl

Automate Instance Creation AWS

[Client Project](#)

BASH, AWS CLI, AWS

- Tool for migration of VMware vSphere OVA to AWS AMI

Migrate Existing OVA to Azure

[Client Project](#)

BASH, AZURE CLI, AZURE

- Migration of VMware vSphere OVA to Azure

Rails Backend Development

[Client 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