

# Ishwar Sawale

DATA SCIENTIST · MACHINE LEARNING RESEARCHER

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## Summary

I have 2+ 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

Pune, India

Aug 2015 - Feb. 2016

- Achived grade A with 70.00%

### BE in Electronics & Telecommunication

UNIVERSITY OF PUNE

Pune, India

Aug. 2011 - May. 2014

- Achived Distinction with 69.33%

### Diploma in Electronics & Communication

MSBTE, MUMBAI

Mumbai, India

May. 2008 - Aug. 2011

- Achived Distinction with 85.38%

## Work Experience & Responsibility

### Mindstix Software Labs

DATA SCIENTIST

Pune, India

Feb. 2018 - PRESENT

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

### Coriolis Technologies Pvt Ltd

MEMBER OF TECHNICAL STAFF

Pune, India

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

- 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

### 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

### 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 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

## Data Science Section

### Ghouls, Goblins and Ghosts

[Open Source Contribution](#)

NUMPY, PANDAS, SKLEARN

[kaggle.com](#)

- "Ghouls, Goblins, and Ghosts... Bool!" 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

### 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

### 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