Ishwar Sawale

Data Scientist · Machine Learning Researcher

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Summary

I have 3+ 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.
I also have completed 115+ courses related to Machine Learning, AI from Udemy, Coursera, Datacamp, & Linkdin Learning.

Education

Diploma in Big Data Analytics — *Pune, India*

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

- Achived grade A with 70.00%

BE E & TC — *Pune, India*

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

- Achived Distinction with 69.33%

Diploma in E & C — *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 — *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 with Python Track Datacamp
- Data Scientist with Python Track Datacamp
- Data Manipulation with Python Track Datacamp
- Data Analyst with Python Track Datacamp
- Importing & Cleaning Data with Python Track Datacamp
- Data Scientist with R Track Datacamp
- Data Analyst with R Track Datacamp
- Importing & Cleaning Data with R Track Datacamp
- Machine Learning with R Track Datacamp

Projects

Color Constancy Algorithm — *Mindstix Software Labs Project*

Python, OpenCV, Dlib, CNN — *Aug 2018 - Current Project*

- Algorithm development to get true skin color from the image, independent illumination conditions
- Color difference delta E between photo spectrometer and the developed algorithm is < 2.38

Product Learning ChatBot — *Mindstix Software Labs Project*

Tensorflow, Deep Learning, Python — *June 2018 - Dec 2018*

- A user can ask questions specific product & based on user's query intents, entities are predicted
- Based on intents real-time data about the product is fetched from the database

DevOps Chatbot — *Mindstix Software Labs Project*

NLP, LSTM, RASA, Python, Flask — *Feb 2018 - Aug 2018*

- This chatbot helps the user to create a deployment pipeline
- Based on user inputs build can be pushed on a certain environment, get status of build etcBased on user inputs build can be pushed on certain enviornment, get status of build etc

User-User Collaborative Filtering

Mindstix Software Labs Project

Neo4J, Python — *Feb 2018 - May 2018*

- 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 — *Feb 2018 - May 2018*

- 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 — *Feb 2018 - April 2018*

- 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

License Plate Recognition System

Coriolis Tech Project

OpenCV, Deep Learning, Python — *March 2016 - Feb 2017*

- 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

Orchestration Chef, Puppet, Ansible

Coriolis Tech Project

Rails, Mongo, Chef, Puppet, Ansible, REST API — *Sept 2016 - Feb 2018*

- 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

Open Source Projects

Facial Key Point Detection

Open Source Contribution

Tensorflow, Keras, Python — *Sept 2018*

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

Neural Style Transfer App

Open Source Contribution

CNN, Python, Kivy — *July 2018*

- 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 — *June 2018*

- Track How much time spend on which task, based on given input this bot extracts intent & slots using NLU
- Once itent & entity predicted, then detected task is added into DB

Face Recognition Library

Open Source Contribution

Facenet, Python — *Mar 2018*

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

Real Time Face Recognition

Open Source Contribution

Python, Tensorflow, Facenet, Keras — *Sept 2017*

- 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 — *Aug 2017*

- 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 — *July 2017*

- 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