Ishwar Sawale

Data Scientist · Machine Learning Researcher

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Summary

I have 3.2+ years experience in Data Science. I am currently working with Mindstix Software Labs as a Data Scientist/ML Engineer. I am Research Engineer focus on data-driven solutions for Deep Learning, Computer Vision and Chat Bot based 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 Analyatics
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*

- Computer Vision Research
- Question & Answer ChatBot Research
- Deep Learning Algorithm Research
- Algorithm Design

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

Projects

Chatbot HR
Mindstix Software Labs Project

Python, TensorFlow, RASA — *Jan 2019 - Present*

- Developed custom NLU & Dialogue component for entity, intent detection, Dialogue managment
- Developed context based retrival for unstrcutred data like website paragraph etc.

Color Constancy Algorithm
Mindstix Software Labs Project

Python, OpenCV, Dlib, CNN — *Aug 2018 - Feb 2019*

- 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 Tool for 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

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

PyImageSearch

- PyImageSearch Gurus Graduate by PyImageSearch

Coursera

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

Datacamp

- Machine Learning with Python Track
- Data Scientist with Python Track
- Data Manipulation with Python Track
- Data Analyst with Python Track
- Importing & Cleaning Data with Python Track
- Data Scientist with R Track
- Data Analyst with R Track
- Importing & Cleaning Data with R Track
- Machine Learning with R Track