



Mayur Kulkarni

SDE (Machine Learning)

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EXPERIENCE

Software Developer Engineer (Machine Learning)

July 2018 - Present

[Microsoft Research & Development, Hyderabad, India](#)

Solving Machine Learning problems on the Microsoft Azure platform.

Course Instructor - Deep Reinforcement Learning

Aug 2018 - Oct 2018

[International Institute of Information Technology, Bangalore](#)

Instructor for Post Graduation program in Artificial Intelligence and Machine Learning by Upgrad.com and IIT Bangalore. My responsibility was to deliver content in Reinforcement Learning. Some of the topics I have taught are:

- Dynamic Programming
- Q-Learning
- Deep Q-Learning, Deep Q-Networks, Double DQN, Dueling.
- Policy Gradients
- Capstone project to build Algorithmic Trading bot using Deep Reinforcement Learning.

Machine Learning Engineer

Oct 2016 - June 2018

[Xoriant Solutions](#)

As part of the R&D team, I have worked on projects for clients that include the leading consulting companies, and multinational banks of the world. Some notable projects are listed below.

- Risk Analysis
 - Banks receive millions of documents for violating terms. Determining whether or not the text is pertinent requires one to read it in completion, this platform aims to ameliorate this problem by evaluating the document for possible risks and violations and predicting the extent of the potential loss for the bank.
 - Bidirectional LSTM, Word Embeddings, and Convolutional Neural Network were used to classify the text for risk with a precision of 92% and an accuracy of 88%.
 - On the classification of a risk, an Extremely Randomized Trees classifier was used to predict the extent of risk (Very risky to less risky) hence enabling the bank to address the most relevant issues first.
- Brand Sentiment Analysis
 - The BSA platform helps companies to determine the success of their products in the market based on sentiment analysis on empirical and live stream data from sources like Twitter, Facebook, News portals, and other sources giving critical insights into how the end customer feels about the product.
 - Bagged model with Naive Bayes, Max Entropy, and Multilayered Perceptron was trained with an accuracy of 83%

Research and Development Intern

Jun 2016 - Jun 2016

Indian Institute of Technology, Bombay

- Implemented various APIs in existing infrastructure and designed a Recommender System with Restricted Boltzmann Machine.
- Technology Stack: Java, Spring, Hibernate, and Python.

Marketing Intern

May 2017 - Jun 2017

Indian Institute of Management, Lucknow

- Improved Marketing and Presentation skills, designed Marketing Strategies.

Full Stack Developer Intern

Apr 2016 - Jun 2016

Gig It!

- Designed and implemented the front and back end of the company's official website.
- Technology stack: Django/Python, Memcached, Nginx, CSS, HTML, JavaScript.

SKILLS

- **Primary:** Python (PyTorch, TensorFlow, Scikit-learn, NLTK, FastAI), Java
- **Proficient:** C/C++, R, MATLAB, Django, Flask, LaTeX.
- **Working Knowledge:** HTML, CSS, JavaScript, Spring, Hibernate, D3JS.

EDUCATION

Bachelors of Engineering, Information Technology

Jun 2012 - Jun 2016

Smt. Kashibai Navale College of Engineering, University of Pune

Highest honors, 8th rank in institution.

PROJECTS

Kaggle: Severstal Steel Detection

- I used an ensemble of DeepLabv3 with Atrous Convolutions and U-Net with ResNet-18 Encoder. During training, I used a combination of Lovász Softmax and Focal Loss. The solution was in the top 10% on the leaderboard with over 1000 submissions.

Linux Operating System

- Compiled a working Linux Operating System using various open-source packages.
- Modified the Red-Black Tree implementation in the CFS scheduler with Heap.

Open Source: Scikit-Learn

- Scikit-learn is one of the most popular open-source Machine Learning libraries used in Python.
- My contributions include bug fixes, maintenance, and algorithmic improvements.

HOBBIES

- **Competitive Programming**

- Ranked 99.99th percentile on HackerRank amongst one million users.
- Ranked **43/2000** on HackerEarth Codigo Mistreo 2.
- Completed Google Foobar challenge.

- **Music**

I have been playing guitar for over ten years and Piano for three years. I have also played guitar professionally, been on a tour in Spain and recorded an album with my rock band **Space**.