Sushovan Mandal, Machine Learning Engineer, IITian

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Passionate Machine Learning Engineer, budding Data Scientist and ideator. More than 1 year experience solving industry problems using Machine Learning, Data analysis & innovative visualizations. Expert in efficient Python Data Science coding using pandas, NumPy, scikit-learn. Advanced user of Git versioning system, able to comfortably handle large, complex codebase. Fluent in English, Hindi, Bengali.

# Experience

### Alumnus Software Ltd., Kolkata – Engineer, Data Science Team

## APR 2018 – PRESENT

* Coordinated with Lead Data Scientist; feature engineering, conceptualization of different machine learning models, results analysis and visualizations across several client projects.
* Achieved *70%* accuracy in projections for how different promotion schemes affect B2B sales of different biscuit brands and sub-brands to retailers and wholesalers in a couple of markets.
* Improved upon existing methods, predictions for Short Interest of US stocks on given data after analysing and evaluating many machine learning models as a team.
* Reduced runtime of codebase for data pre-processing and machine learning modelling over full dataset, by order of magnitude using optimized NumPy, pandas, python coding and parallelism.
* Streamlined reusability across projects by building a modular, optimized code flow framework for sliding window timeseries modelling, independent of machine learning technique utilised.
* Reduced inefficiency by *5%* in FMCG stock loading using Azure Databricks as a platform to run models.
* Utilised ML techniques like SARIMAX, Multi-Linear Regression, Random Forest, XGBoost, Clustering, etc.

### Alumnus Software Ltd., Kolkata – Trainee Engineer

## OCT 2017 – APR 2018

* Designed and developed prototype Chatbot project for a professional scenario with distress detection in a small team; architecture consisted of Android app, Python Django Server and Google Dialogflow NLP agent.
  + Developed algorithm for stress incident detection using multiple inputs.
  + Trained a comprehensive Dialogflow bot with custom user intents leveraging case-specific data.

### Microsoft India Development Centre, Hyderabad – Machine Learning Intern, Bing.com team

## MAY 2016 - JULY 2016

* Automated Feature Engineering for existing Debugging tool for location query results.
* Built Big Data tool mining search logs to determine most important locations using Machine Learning.

### National Digital Library, IIT Kharagpur - Project Student, B. Tech Project

## FEBRUARY 2015 - NOVEMBER 2016

* Engineered web portal prototype, with active feedback from supervisor, for searching and accessing yesteryear Question Papers of Board Exams and Entrance Examinations, single-handedly.
  + Used Django Frameworks and MariaDB database backend and REST API.
* Automated metadata creation for indexing new educative content files in a Digital Library using Python Information Retrieval program making use of Open-source Python libraries like lxml, ebooklib.

### SAP Labs India, Bangalore - Intern

## MAY 2013 - JULY 2013

* Integrated Proprietary C# tool with 3rd party suite in Testing Automation in a 2-member team.
* Experimented on prototype Android application for testing mobile apps as a Proof of Concept.

### Autonomous Ground Vehicle Research Group, IIT Kharagpur - Junior Developer

## AUGUST 2011 - MARCH 2013

* Acquainted with techniques like A\* search, Simultaneous Location and Mapping (SLAM), Reinforcement learning and Imitation Learning on 3D point cloud from LIDAR, stereoscopic vision under Team [AGV](https://www.linkedin.com/company/3863365?trk=prof-exp-company-name).
* Contributed to SONAR and GPS sensor modules for path planning and obstacle avoidance using Kalman Filter for bot prototypes which won a few awards at IGVC '12 & ‘13, Michigan, USA, and also Autonomous Rover ​prototype chassis for ​Team Indus​, Google Lunar Xprize finalist.

# Skills and Expertise

**Python, C, C++ 11, Kotlin, Java, SQL**; **Linux** environment & **terminal**; Advanced version control: **git, Github**.

**Python** libraries: **NumPy, pandas, scikit-learn, Django**; Python **visualization**: **Matplotlib, seaborn, Plotly**.

Development Environments: **Jupyter, PyCharm, Android Studio**; Advanced code editors: **Atom, Sublime**.

# Education

### Bachelor of Technology - Computer Science & Engineering, IIT Kharagpur

## Class of 2017, CGPA: ***7.0***

* Used Hadoop Streaming utility to extract and analyze meaningful information from large website and sales logs, with Python mapper and reducer scripts to run Map-Reduce on a Hadoop cluster.

### AISSCE 2010, CBSE 10+2 - DAV Model School, Durgapur

## All India Senior School Certificate Examination, Science with Computer Science: ***89%***

### AISSCE 2008, CBSE 10 – DAV Public School, Midnapore

## All India Senior School Examination: ***88.4%***

# Extra-Curricular Activities

* Won Best Freshers’ Award in a 3-member team for building a Differential Drive bot; in an Image Processing event Robocop, utilizing OpenCV libraries, at Kshitij’11, IIT Kharagpur.
* Awarded one of the Best Volunteers in NSS as Deputy Group Leader.
* Hobbies include sketching, road trips, mountain trekking.