Sushovan Mandal, Machine Learning Engineer, IITian

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Passionate and responsible Machine Learning Engineer. 1.5-year experience solving industry problems using Machine Learning, Data visualization & creative thinking; about 2 years overall experience. Achievements include 10x improvement in runtime of codebase at Alumnus, leveraging optimal numpy, pandas code & multiprocessing. Achieved 10% efficiency gain in stock loading across all products.

# Experience

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

## APR 2018 – PRESENT | **1 year 5 months**

* Achieved *70%* accuracy in projections for promotion schemes' effectiveness on B2B sales of different biscuit brands for a FMCG client company.
* Reduced inefficiencies by *10%* in loading and unloading of FMCG stock. Used extensive Feature Engineering and multi-step Ensemble Modelling for solution; and AWS as platform.
* Improved predictions for Short Interest of US stocks. Collaborated with project members to analyze and evaluate different candidate Machine Learning models.
* Reduced runtime of codebase, from pre-process to model & predict on large dataset, by an order of magnitude. Leveraged optimal numpy & pandas Python code and multiprocessing.
* Streamlined reusability across projects by building a modular & optimized codebase for sliding-window Time series Forecasting, independent of ML algorithm used.
* Utilized ML techniques like SARIMAX, Multi-Linear Regression, Random Forest, XGBoost, Clustering, etc.
* Deployed end-to-end solution into production, from Data Load, Feature Engineering to Modelling & Evaluation, on Dataiku DSS platform.

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

## OCT 2017 – APR 2018 | **6 months**

* Implemented proof-of-concept Chatbot project in a small team, consisting 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 | **3 months**

* Automated Feature Engineering for existing Debugging tool for location query results.
* Built Machine Learning module on Big Data platform to determine most important locations for an application, from past search logs.

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

## JULY 2015 - NOVEMBER 2016 | **1 year 4 months**

* Engineered web portal for searching and accessing previous years’ Question papers. Utilized Django Frameworks and MariaDB database backend and REST API.
* Automated metadata creation for indexing digital library using Python Information Retrieval program utilizing Open-source libraries like lxml, ebooklib.

### SAP Labs India, Bangalore - Intern

## MAY 2013 - JULY 2013 | **3 months**

* Experimented with testing automation C# tool and Android mobile app testing.

# 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***

### 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.
* Contributed as Junior Developer in a student-body research group Autonomous Ground Vehicle at IIT KGP, building autonomous rover prototypes which won a few awards at IGVC '12 & ‘13, Michigan, USA.
* Awarded one of the Best Volunteers in NSS as Deputy Group Leader.
* Hobbies include sketching, road trips, mountain trekking.