**Satish Mandal**

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**Professional Summary:**

* Over 6+ years of hands on experience and comprehensive industry knowledge of Machine Learning, Statistical Modelling, Data Science, Data Mining, & Natural Language Processing, Artificial Intelligence Algorithms, Analytics Models (like Decision Trees, Linear and Logistic Regression, Classifications, Clustering).
* Experience in developing web applications and coding with an analytical programming using Python, Django, Flask, MySQL, HTML, CSS, and Bootstrap.
* Experienced with full software development life cycle (SDLC), architecting scalable platforms, object- oriented programming and database design as well as experience in Agile Methodology and Scrum.
* Excellent working knowledge in UNIX and Linux Shell environments using command line utilities.
* Good experience of software development in Python (libraries used Beautiful Soup, Numpy, SciPy, Matplotlib, Pandas, Seaborn, NLTK, pytest, urllib, htmllib5, requests, PyMySQL).
* Experienced in generator functions, generator expression and package development.
* Excellent knowledge of Machine Learning, Mathematical Modeling and Operations Research along with R, Python, MATLAB, and Relational databases. Deep understanding & exposure of Big Data Eco-system.
* Experienced in Text Analytics, developing different Statistical Machine Learning, Data Mining solutions to various business problems and generating data visualization using R, Python, Tableau.
* Proficient in Machine Learning, Data/Text Mining, Statistical Analysis & Predictive Modeling.
* Experienced in building data models using machine learning techniques for Classification, Regression, Clustering and Associative mining.
* Proficient in data visualization tools such as Tableau, Python Matplotlib, R Shiny to create visually powerful and actionable interactive reports and dashboards.
* Good experience in developing web application and implementing MVC architecture using server-side applications like Django, and Flask.
* Experienced in working with various IDE’s like Spyder, Jupiter Notebook, PyCharm, Sublime Text.
* Experience with various Design Patterns, Multi-threading, Collections and UML concepts using in Python.
* Experience in Amazon Web Services and Google Cloud Platform Storage.
* Experience in Relational Database Management System (RDBMS) design and programming, normalization and security administration.
* Experienced in developing complex SQL queries, Stored Procedures, Functions, Packages along with performing DDL and DML operations on MySQL and PostgreSQL database.
* Proficient in NoSQL technologies like MongoDB, and Cassandra and relational databases like SQLite, PL-SQL, MySQL and DynamoDB.
* Experienced in Test Driven Development and Unit Testing.
* Experience in Version Control systems using Git, GitHub and SVN.
* Performed code reviews and implemented best pythonic programming practices.
* Quick learner and keen to adopt new technologies.
* Excellent analytical skills accompanied by good written and interpersonal communication, documentation and testing skills.
* Experienced in working with different operating systems Windows, Linux, UNIX and MacOS.

**Technical Skills:**

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| **Programming Languages** | Python – 2.7 & 3.6, C/C++, R, Matlab, SQL, LaTeX |
| **Framework** | Django, Flask, Pyramid |
| **Web Technologies** | HTML, PHP, CSS, Bootstrap |
| **Python Libraries** | Numpy, Pandas, SciPy, Scikit-learn, Matplotlib, Seaborn, Keras, Theano, TensorFlow, NLTK, PyMySQL, Beautiful Soup, urllib2, requests, htmllib5, MySQL Connector, PyMongo, PyDynamo |
| **R Libraries** | dplyr, ggplot2, Shiny |
| **Machine Learning** | Linear and Logistic regression, Tree-based Models, SVM, PCA, Clustering, Naïve Bayes, Feature Selection, Classification Trees,  k-nearest Neighbors, ROC Curve |
| **Databases** | MySQL, PostgreSQL, SQLite, DynamoDB, MongoDB, Cassandra |
| **IDEs** | Anaconda, Jupyter, PyCharm, Sublime Text, Notepad++ |
| **Cloud Platform** | AWS, GCP |
| **Version Control** | GIT, GitHub, SVN |
| **Methodologies** | Agile, Scrum |
| **Operating Systems** | Windows, Linux, UNIX, MacOS |

**Professional Experience:**

**FedEx – Albuquerque, NM Feb 2017 – Sept 2018**

**Data Engineer/ Python Developer**

**Description:** FedEx Corporation is an American multinational courier delivery services company. As part of my job, I cleaned, formatted and pre-processes customers order data. I was also responsible for developing and training deep learning models using machine learning algorithms and deploying it in Google Cloud.

**Responsibilities:**

* Worked with Python libraries like numpy, Pandas, Matplotlib, and urllib2 to extract data and manipulate data for exploratory analysis using data munging.
* Built models using Statistical techniques like Bayesian HMM and Machine Learning classification models like SVM, and Random Forest.
* Participated in all phases of data mining, data cleaning, data collection, developing models, validation, visualization and performed Gap analysis.
* A highly immersive Data science program involving data Manipulation & Visualization, Web Scraping, Machine Learning, Python programming, SQL, GIT, MongoDB, Hadoop.
* Implemented Classification using supervised algorithms like Logistic Regression, Decision trees, Naive Bayes, KNN.
* Perform extensive statistical computing and data manipulation using Hadoop Ecosystem.
* Applied Natural Language Processing (NLP) techniques to process the raw text.
* Delivered automated solutions for science models.
* Validated the machine learning classifiers using ROC Curves and Lift Charts.
* Worked on different data formats such as JSON, XML and performed machine learning algorithms in python.
* Wrote Python routines to log into the websites and fetch data for selected options.
* Generated Python Django Forms to record data, login, and sign up of users.
* Developed data model, SQL Queries, SQL Query tuning process and Schemas.
* Automated the existing scripts for performance calculation using Numpy.
* Involved in designing database Model, APIs, Views using python to build interactive web-based solution.
* Designed python scripts to store, retrieve and modify data in MongoDB and MySQL databases.
* Worked on ETL objects that were already in production and successfully modified to improve the performance.
* Developed and reviewed custom SQL queries with use of joins clauses (inner, left, right, full) in Tableau desktop to validate and reconcile data.
* Worked on server-side applications with Django using Python programming.
* Performing Functional testing, regression testing, integration testing, and communication testing.

**Environments**: Python, R, Django, MYSQL, Hadoop, Tableau, Linux, Machine Learning, NLP, Pandas, Numpy, Seaborn, Scikit-learn, TensorFlow, Keras, regression, logistic regression, random forest, SVM, NLTK, Classification, and UNIX.

**Wells Fargo, Albuquerque, NM Jan 2015 – Dec 2016**

**Python Developer/ Data Analyst**

**Description:**  Wells Fargo & Company is an American multinational financial services company. I designed and applied machine learning algorithms/models on bank data to predict customer behaviors. I developed and maintained production Python code of several data science projects.

**Responsibilities:**

* Worked on Pandas to import the data, sort and plot the statistical data.
* Used Pandas API to put the data as time series and tabular format for east timestamp data manipulation and retrieval.
* Work on Text Analytics, Naive Bayes, Sentiment analysis, creating word clouds and retrieving data from Twitter and other social networking platforms.
* Different testing methodologies like Unit testing, Integration testing, Web application testing were performed.
* Used Pandas for Statistical Analysis in the application and Numpy for the advance math functionalities.
* Used classification and regression techniques to predict the outcome of some of the missing data.
* Involved in creating Hive tables, loading with data and writing hive queries that will run internally map Reduce way.
* MySQL Procedures and MySQL Connector, PyMySQL were designed and developed for Data import/export and conversions.
* Created Dashboard reports using Tableau once the data analytics completed.
* Composed moderate to complex SQL queries to analyze large and complex data sets.
* Used ETL for handling of the raw data, organizing and structuring the data.
* Views and Templates were developed with Python and to create a user-friendly website interface Django view controller and template language is used.
* Ensured high quality data collection and maintaining the integrity of the data.
* Involved in Unit testing the SQL Scripts for report development, Tableau reports, Dashboards and handled the performance issues effectively.
* Worked on Big data analytics like Apache Hive, Apache HBase.
* Developed and implemented the user registration and login feature for the application process from scratch by extending Django user model.
* Designed and developed data management system using MySQL.

**Environments**: Python, Django, Hive, Tableau, MySQL, Hadoop, Linux, Pandas, Numpy, Matplotlib, Seaborn, Scikit-learn, TensorFlow, Feature extraction, K-means Clustering, Machine learning, regression, classification, NLTK, SVM, and MapReduce.

**Cigna Health Care, Pittsburgh, PA Dec 2013 – Dec 2014**

**Python Developer**

**Description:** Cigna is an American worldwide health services organization. I worked on development of customer support and complains registration system. This is a Post sales and Customer feedback and complains management system.

**Responsibilities:**

* Involved in preparing engineering specification with OOA and OOD.
* Used UML Tools to develop Used Case Diagrams, Class Diagrams, Collaboration and Sequence Diagrams, State Diagrams and Data Modelling.
* Developed views and templates with Python and Django’s view controller and templating language to create user-friendly website interface.
* Developed application logic using Python and C++.
* Used JMS for updating Mailing plans and tracking them.
* Used Test driven approach for developing the application in the in-built MVC Architecture.
* Enhanced existing automated solutions, such as the Inquiry Tool for automated Asset Department reporting and added new features and fixed bugs.
* Created database using MySQL, wrote several queries to extract and store data.
* Wrote Python scripts to parse XML documents and load the data in database.
* Implemented web applications in Django and Flask frameworks following MVC architecture.
* Involved in the complete Software development life cycle to develop the application and worked closely with software developers to debug software and system problems.
* Followed Agile Methodologies to manage full life-cycle development of the project.
* Responsible for gathering requirements, system analysis, design, development, testing and deployment.

**Environment:** Python, Django, HTML/CSS, MS SQL, MySQL, Script, PyCharm, GIT, AWS, Shell Scripting, UNIX.

**Deerwalk Inc, Kathmandu, Nepal Feb 2012 – Mar 2013**

**Application Developer**

**Responsibilities:**

* Designed, develop, tested, deployed ad maintained the company website.
* Designed and developed data management system using MySQL.
* Generated property list for every application dynamically using Python.
* Utilized the existing Python and Django modules and rewritten to deliver data in required formats.
* Created unit test framework for all codes.
* Build SQL queries implementing functions, packages, views, triggers and tables.
* Used version control tool to coordinate team-development.

**Deerwalk Inc, Kathmandu, Nepal Oct 2011 – Feb 2012**

**Application Developer Intern**

**Responsibilities:**

* Assisted and developed scripts in Django framework for website development.
* Generated python Django forms to record data, login and sign up for online users.
* Designed Use Case Diagrams, Class Diagrams, and Object Diagrams and developed OOD techniques.
* Developed web services using XML and HTML.
* Wrote python code to parse XML documents and load them into database.
* Accessed data from database using SQL queries.

**Education:**

MS in Electrical Engineering