Abhudaya Shrivastava

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TECHNICAL SKILLS

Languages: Python, MySQL, C, JavaScript, HTML/CSS.
Framework/Libraries: Apache Spark, Pandas, Matplotlib, Plotly, TensorFlow, Keras, PyTorch, and Scikit-learn, NumPy, Scipy, GeoPy.
Developer Tools: Git, Github, PyCharm Professional, Jenkins, Jupyter Notebook, NET Beans IDE, Visual Studio Code.
Business Intelligence and Analytics Tools: Power BI, MicroStrategy Workstation, Tableau.
Workflow management platform/ETL Pipeline Tools: Apache Airflow, Jira, Confluence.
Database Management System: MySQL, MangoDB.
Web Based: Microsoft SharePoint
Big Data Platform: Amazon EMR, Amazon S3.
API: Rest API, Google Geocoding API.
Soft Skills: Team Player, Time Management, Communication, Project Management, Client Management, Adaptable.

EXPERIENCE

Quantitative Analyst September 2022 - Present
NJEDA *Camden, NJ*

- Automated Geo Coding of local businesses by Machine Learning algorithm for data extraction from Excel, and Google Geocoding API in Python using Pandas and GeoPy library for Geocoding/analysis.
- Using dimensional modeling techniques to develop concise data analytical reports on quarterly funds allotted to companies using MySQL with Tableau to visualize data, and SharePoint CRM for data extraction.
- Created quarterly financial forecasting system using MLP neural network and MySQL to support financial decision-making.
- Implemented and preserved documentation techniques that improved team efficiency by 30% and enabled faster troubleshooting and resolution using Excel.

Skills: *Geocoding, Machine Learning, Excel, Data extraction, Google Geocoding API, Python, Pandas, Geopy, MySQL, Tableau, MLP neural network, Sharepoint CRM* .

Software Engineer September 2021 – September 2022
Rutgers University *Camden, NJ*

- Designed and implemented the Learning Management System (LMS) for staff and students.
- Formulated algorithm for issuing book from library which automatically updates libraries records backend data using Python, Apache spark, and MySQL.
- Python–Jira integration using Rest API for web services/applications.
- Developed and updated user signup interfaces and processes for users with Node.js and Angular.

Skills: *Jira, , Rest API, Python, Node.js, Angular, LMS, Python, Apache Spark, MySQL.*

Data Science, Intern January 2021 – September 2021
Fetchr *Dubai, U.A.E*

- Modeled data manipulation techniques, and analysis concepts to build algorithms for complex logistic delivery systems.
- Devised ETL pipeline using Python, Apache Spark, and Apache Airflow for Fetchr's ERP system.
  Created Data Mining algorithms in Python and Apache Spark using Amazon EMR job flow to store data in Amazon S3.
- Designed and implemented Machine Learning models in Python using Pandas, GeoPy, Scikit-Learn, and Keras to automatize extraction and plotting the location of clients for Navigation enhancement and monitored model deployment using Jira.

Skills: *ETL, Python, Apache Spark & airflow, ERP systems, Python, Amazon EMR & S3, Keras, Scikit-learn, GeoPy, Jira.*

Data Science, Intern June 2020 - December 2020
Davidson.group *Dubai, U.A.E*

- Collaborated with UX Styling business partners to prototype and develop solutions for the problems at hand.
- Implemented AI concepts in Python using Matplotlib and Plotly for feature visualization, PyTorch, and Keras to develop machine learning model for Road Transport Authority Dubai's transit system.
- Formulated data mining models in Microstartegy workstation for wide-ranged native analytics and utilized MangoDB for database management.

Skills: *UX styling, Python, Plotly, PyTorch, Keras, Microstrategy Workstation, MangoDB.*

EDUCATION

Rutgers University Camden, NJ
Bachelors in Sciences (Honors) in Computer Science, CGPA: 3.581/4.0 *September 2019- May 2023*

Rutgers University Camden, NJ
Cyber Security Affiliation *September 2019- May 2023*

Certifications Camden, NJ
Bloomberg Market Concepts (BMC), Palo Alto Networks: Firewall 9.1 Essentials, IBM: Python for Data Science.

PUBLICATIONS

IEEE December 2022
11th SMART Conference *Moradabad, India*

- A.S. Rajawat et al., "Security Analysis for Threats to Patient Data in the Medical Internet of Things," 2022 11th International Conference on System Modeling & Advancement in Research Trends (SMART), Moradabad, India, 2022, pp. 248-253, doi: 10.1109/SMART55829.2022.10047322.

IEEE November 2020
7th ITT Conference *Abu Dhabi, U.A.E*

- A. Shrivastava and D. P. Shrivastava, "Using Deep Learning And Machine Learning In Space Network," 2020 Seventh International Conference on Information Technology Trends (ITT), Abu Dhabi, United Arab Emirates, 2020, pp. 83-88, doi: 10.1109/ITT51279.2020.9320781.

RESEARCH EXPERIENCE

Researcher July 2023-Present
Rutgers University *Camden, NJ*

- Correlating indicators to be used when investing in multiple market indexes against volatility index/VIX.
- Identifying how volatility index/VIX affects market bullish and bearish trends.
- Testing and implementing different RNN models in Python and using live volatility index/VIX trend to forecast market trends.
- Analyzing the predictability and accuracy of different models for the best selection of model to forecast the trend.

Undergraduate Researcher January 2021-June 2021
Rutgers University, supervised by Dr. Guy Kortsarz *Camden, NJ*

- Implemented Design and Analysis of Algorithm concepts to formulate and design stack and queue related solutions for complex problems using C language.
- Suggested alternative time complexities for stack and queue operations aiming to complete operations efficiently.
- Achieved efficacy in creating stack and queue algorithm with O(1) time complexity.

Toxicity Classifier September 2023
https://github.com/debugged-abh/LSTM_Toxicity_Classifier

- Correlating indicators to be used when investing in multiple market indexes against volatility index/VIX.
- Indentifying how volatility index/VIX affects market bullish and bearish trends.
- Testing and implementing different RNN models in Python and using live volatility index/VIX trend to forecast market trends.
- Analyzing the predictability and accuracy of different models for the best selection of model to forecast the trend.

Skills: *UX styling, Python, Plotly, PyTorch, Keras, Microstrategy Workstation, MangoDB.*

Consumer Price Index (CPI) Forecast May 2023
https://github.com/debugged-abh/CPI-Forecasting

- Used data extraction techniques on U.S Bureau of Labor Statistics to obtain training Consumer Price Index data for machine learning model.
- Researched different neural networks to train model, and reaching LSTM-RNN model as most ideal neural network.
- Created LSTM model and trained the model using data extracted in Jupyter Notebook using Python, Pandas, Numpy, Scikit-learn, and Keras for data visualization and machine learning model development.
- Forecasted the CPI value till November 2023 using LSTM model with high accuracy of 88% and recall percentage.
- Formulated Tableau dashboard for better story telling of the forecast and forecasting methods using LSTM-RNN.

Skills: *Machine learning, Python, Pandas, Numpy, Scikit-learn, Keras, Jupyter Notebook, LSTM- RNN, Tableau.*

S&P 500 Trend Predictor January 2023
https://github.com/debugged-abh/Stock-Prediction

- Implemented Yahoo Finance API in Python on Jupyter Notebook for S&P500 live data extraction.
- Studied data extracted for the years 20202, 2021, and 2022 to identify seasonal and non-seasonal trends using Pandas, Seaborne to visualize data and data slicing techniques in Python.
- Testing and comparing different statistical techniques under Numpy and Scikit-learn to optimize running time of the machine learning model through Tensorflow and Keras in Python.
- Forecasted a week of S&P500 market trend into the future with an accuracy of 83%.

Skills: *Python, Numpy, Tensorflow, Keras, Scikit-learn, Jupyter Notebook, Yahoo Finance API, Pandas, Seaborne*.

Automated Aircraft Selector November 2022
https://github.com/debugged-abh/Stock-Prediction

- Developed a GUI application using Python, Tkinter, Pandas, Numpy, and Object-Oriented Programming.
- Committed web scrapping of data from Boeing and Airbus of commercial aircrafts.
- Created an algorithm in Python using OOP and data structures from scratch to recommend aircraft based on the factors of distance between origin and destination, cruising speed requested by the airlines, and fuel to be used as per the airline's regulations.
- Ran multiple test cases to detect bugs and windows of improvement in the application.

Skills: *GUI development, Tkinter, Web scrapping, Python, Object Oriented Programing (OOP), Data structures, Pandas, and Numpy.*