Bikash Jaiswal

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Summary

- Software Developer with 2 years of research-based experience in building data driven applications and IT support.
- Experience in designing, implementing and delivery of maintainable and high-quality code using best practices.
- Passionate about building improved services by leveraging machine learning and Big Data technologies.
- Strongly looking for an opportunity to develop an agile, automated, and accelerated services to tackle challenging problems of businesses by innovation, problem solving, programming and creative thinking.

Technical Skills

Languages: Python, Java, C/C++, SQL (PostgreSQL), JavaScript
Web Development tools: HTML, CSS, Flask, Bootstrap
Developer Tools: Git, VS Code, PyCharm, IntelliJ, Eclipse, Docker
Data Science Libraries: Pandas, NumPy, Matplotlib, Scikit-learn, TensorFlow, Keras, PyTorch
Big Data Framework:Hadoop, HDFS, Hive, PySpark
Concepts: OOP, Data Structure, Agile, Web Development
OS: Linux/Unix, Windows

Experience

Machine Learning & Big Data Research Assistant Aug 2017 – Sep 2019
Tezpur University *Assam, India*

- Involved in application and development of clustering, feature extraction and predictive model techniques in gene expression data to identify interesting genes for breast cancer disease.
- Automated ETL pipelines towards rapid data wrangling to extract biological relevant network modules
- Developed algorithms that work in parallel to perform genes network extraction (feature engineering) on Nvidia's GPU, that performs 120x better than serial cpu run time
- Identified 6 biomarker(genes) having 80% potential of causing breast cancer in homo-sapiens
- Published my observations in a paper titled PNME – A gene-gene parallel network module extraction method
- Utilized Flask API and test automation for deployment of machine learning models (Random Forest, XGBoost) in university's HPC Center
- Technology Used: Python, C++, CUDA, Scikit-learn

Projects

Covid-19 Face Mask Detector | *Python, PyTorch, Scikit-learn, Numpy, Matplotlib*

- Developed and trained a Convolutional Neural Network (CNN) model for image classification problem on 3 three different classes: (1) Person without a face mask, (2) Person with a face mask, and (3) Not a person (i.e., any other image) using PyTorch.
- Performed analysis on gender biases in our trained model and found that male F1 score (74.26)% outperform the female F1 score (73.24%) by the difference of 1%. Hence, our model's biased to male images.
- Removed the biases from the model by rebalancing the female image and performed KFold cross-validation techniques which improved the performance from 86% to 89% F1 score for test data.

University Chatbot | *Python, Numpy, Pandas, Resa framework, SPARQL*

- Built a Studybot (an AI agent) that can answer university course-related questions using a knowledge graph and natural language processing.
- Constructed a knowledge base graph and vocabulary using SPARQL and populated it with Concordia's courses open datasets.
- Built a natural language interface using the Rasa chatbot framework on top of our AI agent that could map to SPARQL queries and answer using Fuseki server by translating the response into natural language answers.

Movie Success Forecaster | *Numpy, Scikit-learn, Pandas, Matplotlib*

- Modified the regression problem of predicting Movies Revenue to Multi-class classification problem to predict movies success class (Hit, SuperHit, Flop, SuperFlop).
- Performed feature engineering for dimensionality reduction, with increase in the performance of prediction when trained with Neural Network, and Ensemble Learning models.

SmartProp: Blockchain-based Decentralised Asset Management Application | *ReactJS, CSS, HTML, Solidity*

- Investigated the use of Blockchain technology outside the crypto-currency realm to build Dapps (an application built on a decentralized network that combines a smart contract and a frontend user interface).
- In an attempt to learn the key to expanding Blockchain's user base and encounter the limitation of storage problem of Blockchain (only 1 Mb), performed integration of the Dapps in IPFS (A peer-to-peer hypermedia protocol designed to make the web faster, safer, and more open) is used.

Education

Concordia University Montreal, Canada
Master of Applied Computer Science *Sep. 2019 – June 2021*

Tezpur University Assam, India
Bachelor of Computer Science and Engineering *Aug. 2013 – May 2017*