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SAI NIKHIL THIRANDAS

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Portfolio | LinkedIn | Coursera
GitHub | HackerRank | Brilliant

A mathematician and a Software Engineer with 7.5 years of work experience, who has passion for innovation and loves solving complex challenges. My career goal is to work as a Machine Learning Engineer.

EDUCATION

- M.S. in Applied Mathematics (Machine Learning); Northeastern University; Fall 2020 – Present; GPA: **3.91/4.0**
- Indian Institute of Technology, Kharagpur – B.Tech. (Hons.) in Civil Engineering; Fall 2009 – Spring 2013.
- MOOC: MLOps, Deep Learning, Mathematics for Data Science, Data Structures, Algorithms, Object Oriented Design.
- Coursework: Machine Learning, Computer Vision, Applied Statistics, Linear Algebra, Probability, Mathematical Modeling.

EMPLOYMENT

Senior Software Engineer – Data **Waterline Data Science** **Dec 2018 – Aug 2020**

- Built a first ever unstructured Data Processor to extract text from images in Lumada Data Catalog (LDC). Developed a novel way to collect training data for improving performance of existing OCR engine by 10 %; acquired at least 2 new clients.
- Developed an NLP model to resolve user queries by redirecting to FAQs; reducing no. of tickets logged by 60 %. This improved user retention rate of LDC by 150 %; measured with an efficient user visit logging system.
- Integrated the charting framework ngx-charts into LDC and designed multiple UI components useful for DataOps.
- Fixed several security issues around field tag association, job and role management of LDC.
- Implemented an asynchronous Spark job that helps to sync new/purge ghost content metadata in LDC.

Software Engineer 2 – Full Stack **Oracle** **Aug 2015 – Nov 2018**

- Developed RESTful web services for File-Based Data Import (FBDI Oracle) using Java, Spring, Angular, Oracle DB, Docker.
- Optimized duplicate row detection algorithm using probabilistic approach; reduced time complexity from $O(n^2)$ to $O(n)$.
- Designed a mobile application to scan OMR sheets of candidates during hiring; reduced time spent in recruitment by 80 %.
- Expertise in Oracle Business Intelligence Enterprise Edition (OBIEE), BI Publisher (XML Publisher), Accessibility Evaluation.

Software Engineer – R & D **Altair Engineering** **May 2013 – Aug 2015**

- Developed a GUI Automation Software by cloning Sikuli. Implemented standard image processing algorithms including Laplace Edge Detection, Pyramid Template Matching, Alpha blending, SIFT descriptor.
- Adapted Tesseract OCR's code, to increase accuracy in text-recognition for screen fonts from 50 % to 95 %.

PROJECTS

- Matrix Factorization for User Rating Predictions Derived update rules and implemented Weighted Alternating Least Squares for predicting missing user ratings of MovieLens data. Improved MSE by 62 % compared to baseline (mean predicting) model.
- Data Modeling using Markov Chain Performed Time Series Analysis of average runs of opening batters in baseball from 1871 – 2015 with a Markov Chain. Calculated autocorrelation between original time series and a simulated time series. Performed GoF test at 5 % significance level to determine valid states of Markov Chain in a two-step transition matrix.
- FaceNet – Face Recognition Encoded face image into 128-dimension feature vector (one-shot learning) using FaceNet. Implemented Triplet Loss function to compare Anchor, Positive, and Negative images in training data. Performed face verification and face recognition using the above encodings.
- Debiasing Word Vectors Used 50-dimensional GloVe vectors to represent words. Performed Word Analogy task and implemented equalization algorithm presented in Boliukbasi et al., 2016 to remove gender bias.
- Northeastern News Updater Developed a Google Chrome extension to get instant notification updates from NEWS @ Northeastern portal using JavaScript, AJAX, HTML, and CSS. Was awarded a merit scholarship of $ 25,000.

TECHNICAL SKILLS

- Python, Java, R, C/C++, MATLAB, Mathematica, SQL, PHP, Perl, HTML, CSS, TypeScript, XML, JSON, Visual Basic
- PyTorch, TensorFlow, OpenCV, NumPy, pandas, Matplotlib, scikit-learn, SymPy, Spark, Angular, Spring, JUnit, Mockito
- Git, Jupyter Notebook, Linux, Docker, Kafka, Hadoop, Hive, Zookeeper, Elasticsearch, PyCharm, IntelliJ IDEA, Oracle BI Publisher
- Regression, Classification, Ranking, Clustering, Dimensionality Reduction, Bagging, Boosting, Feature Engineering, Neural Networks, Deep Learning, Computer Vision, Natural Language Processing, Optical Character Recognition, Template Matching.

EXTRA ACADEMIC ACTIVITIES

- Led the Data Club – Spring 2022 at Northeastern. Taught around 100 common interview problems in all levels of difficulty.
- Teaching assistant for Matrix Methods in Data Analysis and Machine Learning (Fall 2021), Calculus 2 (Spring 2021).
- Contributed to an open-source organization named **SymPy** during GSoC-2012 application.
- Ranked in the top 10 in a CodeSprint (an algorithm competition) on **HackerRank** and won a 1 TB HDD.