Pratik Maitra

Computer Science Student/Professional

Contact

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GitHub - https://github.com/PratikMaitra
Portfolio- https://pratikmaitra.github.io/

Education

University of Iowa
3.70 CGPA
Master`s in Computer Science
2021-23(ongoing)
GRE – 321/TOEFL - 113

Jadavpur University
Bachelor`s in Computer Science
2013-2017
3.41 CGPA (ECE evaluation)
First Class (no backlogs)

Vivekananda Mission School
94.50 % (ISC)
96.60 %(ICSE)
(In the top 10 all India merit list)

Experience

2022/10-2023/01(3 months ongoing)
Remote Internship • PDF to CSV parser • Web page development
2022/6-2023/01(7 months and ongoing)
Research Assistant • Optimization/NLP/Informatics • University of Iowa
2021/10-2023/01(15 months and ongoing)
Teaching Assistant • DBMS/UI/DS/BAIS • University of Iowa
2017-2019(2 years)
IT Officer • State Bank of India

Research

- I worked with Prof. Wang at the University of Iowa and Yixiang Xu of Berkley as a paid RA for optimization of python code. The optimization resulted in a reduction in the run time of processing a 5000-tweet database from 98 minutes to 26 minutes. The optimization techniques involved use of multiprocessing using concurrent futures modules, using cProfiler to profile the code and also exploring NumPy/Pandas broadcasting, Cython, Async/IO.
- I am currently working as a RA with Dr. Sena Chae from the University of Iowa College of Nursing on a project related to Health Informatics. I have performed the data cleaning, data analysis of a on a voluminous EHR dataset and extraction of multiple chronic conditions from the same. I have also applied transformer based medical NLP tools like BioBERT and CliniBERT to extract common disease terms from the medical notes of the dataset.
- I am also working with Professor Bijaya Adhikari on developing a python-based GUI for a research paper implementation as part of my independent research work course.
- I worked under Professor Subhadip Basu of Jadavpur University on the use of Shapley values for finding a game theoretic approach of the most influential node in a network and implemented the suggested algorithm.

Key Skills

Java/Python/JavaScript/HTML/CSS
C/C++(familiar)
MySQL/MongoDB
SQL Stored Procedures/ORM
NodeJS/Express/React/MERN stack
PyTorch/TensorFlow
BioBERT/CliniBERT
C-Profile/ Async-Io/Multiprocessing
GitHub/Gitlab/Version Control
AWS EMR/YCSB/Hadoop/Spark
Agile/Scrum

Projects

- Electronic Medical Representative web app using MERN stack following agile methodology.
- Projects involving comparison of ML models viz Linear Regression, SVM, KNN, LSTM on stock price predictions, football match statistics, Boston housing data-set and titanic dataset.
- Interactive pages using Google Maps API and Geocode and Web scraping and data extraction using Octaparse /Beautiful Soup.
- Cloud database benchmarking using YCSB and big data analytics of large-scale tweet dataset using Hadoop and cloud computing.
- Working PDF to CSV parser to extract tables as internship project.