CHIRAG MALHOTRA

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EDUCATION

Northeastern University, Boston, MA   Expected December 2024
Khoury College of Computer Sciences
Master of Science in Computer Science, GPA: 3.917
Related Courses: Machine Learning, Database Management Systems, Object Oriented Design, Data Structures and Algorithms.

CHRIST University, Bangalore, Karnataka, India   October 2021
Bachelor of Technology, Mechanical Engineering, GPA: 3.56
Related Courses: Basics of CSE, Robotics, Automation, Control Systems, Microprocessors, Micro Electro-Mechanical Systems.

TECHNICAL SKILLS

Machine Learning Tools: Scikit Learn, NumPy, Pandas, PyTorch, Matplotlib, Seaborn.
Web Tools: Django, HTML, CSS, Bootstrap, React, MVC, Java Spring Boot.
Databases: MySQL, MSSQL, No SQL (Mongo DB).
Programming languages: Java, Python, C, C++, JavaScript.
Mechanical Skills: Catia, MATLAB, SolidWorks, robotics, MEMS, control systems, automation.

PROJECTS

Chess Classifier, Chess Classifier DNN, Northeastern University   April 2023 - May 2023
- Created 3 Deep Neural Net architectures, and 2 classifiers to classify win | loss in chess deploying Pytorch and sci-kit learn.
- Led a comparative analysis on performance of 6 different ML models to classify problem.
- Built models based on both board state 60,000 games with around 60 moves per game using one-hot encoding and on heuristics based on 6 different heuristic criteria.

Read It, Northeastern University   April 2023 - April 2023
- Constructed a miniature version of one of world's biggest and most complex social media website, Reddit.
- Devised and built a database with 10 tables in conceptual design phase using SQL on MySQL Workbench.
- Created the UI as a CLI application had user login, encryption for password, sign up page and much more validated mostly through SQL database leveraging functions, procedures, and triggers in database itself.

Sentiment Scraper, Boston University   November 2022 - November 2022
- Created a Sentiment analysis model to mitigate the issue of over 21 million adults getting severe depression per year in US.
- Developed software: scrapes the website by utilizing beautifulsoup library and operates NLP to do sentiment analysis.
- Implemented LSTM model to train on the dataset with over 25000 conversations to classify whether the content is harmful.

Sticky Sign, Hack Harvard, Harvard University   October 2022 - October 2022
- Built an ML-based game to solve the problem: there are Less than 13 % population knows how to communicate in sign languages and there aren't many outlets to study the same in an interesting way.
- Designed a Computer Vision based gamified learning environment to make learning ASL fun using less than 5 sticky notes.
- Built Computer Vision, feature detection, and mixed-reality-based application; can be used to study and teach ASL and Git.
- Got recognition for idea and product by the judges of the hackathon reached the second round of judgement.

Flood prediction over Brahmaputra River, Assam   August 2018 - September 2018
- Targeted the problem of flooding over the Brahmaputra River over Assam in India, may save hundreds of lives in Assam.
- Identified the best-suited model for the prediction among 5 different possible models and found the convergence parameters.
- Got an accuracy of 98 percent on the test set using the data acquired.

WORK EXPERIENCE

Khoury College (Northeastern University), Boston, MA   January 2023 - Present
Graduate Teaching Assistant
- Teaching Assistant for Object Oriented Design CS 5004 course under Professor Kieth Bagley and Vidoje Mihajlovikj.
- Clarifying student doubts regarding Object Orientation in Java, grading student assignments, and setting up tutoring sessions with students.
- Hold 4 hours of office hours and on average 3 hours of tutoring sessions along with 3 hours of recitation lab every week to reinforce concepts and answer student's queries.

INTERESTS AND SOCIAL WORK

- Social work: Founding member of awareness club, part of social action club in undergrad university, corona relief team.
- Interests: Play guitar, piano, Singing, Skating (Both roller and skateboard), martial Arts.
- Part of Eurobrake 2019 student opportunity program, Dresden, Germany.