1102 Boylston St, Apt 2
Boston MA - 02215
Phone No: +1-617-818-4646

SAI NIKHIL THIRANDAS

saint.math.1729@gmail.com
GitHub: https://github.com/saint1729
LinkedIn: https://in.linkedin.com/in/saint1729

A mathematician and a Software Engineer with 7+ years of work experience, who has passion for innovation and loves solving complex challenges. Looking for a long-term career in Machine Learning + Computer Vision applying Deep Learning techniques.

EDUCATION

- Northeastern University, Boston – M.S. in Applied Mathematics (Sep 2020 - Present). GPA: **3.87**
- Indian Institute of Technology, Kharagpur – B.Tech. in Civil with minor in Computer Science.

COURSEWORK

Mathematics	Multivariate Calculus & Optimization, Applied Linear Algebra, Probability, Applied Statistics
Computer Science	Machine Learning, Data Structures & Algorithms, Object-Oriented Design, Competitive Programming

TECHNICAL SKILLS

Languages	Python, Java, C/C++, R, MATLAB, Mathematica, SQL, PHP, Perl, HTML, CSS, TypeScript, Visual Basic
Frameworks	PyTorch, TensorFlow, OpenCV, NumPy, pandas, Matplotlib, scikit-learn, SymPy
Additional	Git, Jupyter Notebook, Linux, Docker, Excel, PyCharm, IntelliJ IDEA, Oracle BI Publisher

EMPLOYMENT

Software Engineer – R & D **Altair Engineering**

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

Senior Software Engineer **Hitachi Vantara, Oracle**

- New features implementation and functionality enhancement in the Agile environment using the TDD approach.
- Optimized time complexity of duplicate rows detection algorithm from **$O(n^2)$ to $O(n)$**, improving runtime from 4 min to 7 sec.
- Integrated ngx-charts, a charting framework into the application and designed multiple UI components.
- Developed an end-to-end (UML Modelling + Backend + Frontend) Bell Notification Feature.

PROJECTS

Automatic Colorization of Grayscale Images

- Implemented Zhang et al. paper on automatic colorization of grayscale images using Deep Learning techniques.
- Modified the architecture of the CNN to achieve similar colorizations but with quicker training time and less complex model.
- Achieved 38 % accuracy using classification accuracy and 77 % accuracy using a novel technique that calculates the displacement of predicted classes compared to actual ones with certain threshold.

User rating predictions for Movies on MovieLens Data

- Derived update rules and implemented Weighted ALS for predicting missing user ratings of MovieLens data.
- Evaluated the algorithm using MSE and compared it to baseline model. Obtained average training error as 0.31, test error as 0.37 and baseline error as 0.82 implying that the collaborative filtering model is 62 % better than baseline model.

Statistical Analysis to investigate association of crime count with sport loss in Boston

- Leveraged R, Python, and time series analysis to assess daily crime data with loss of sports in Boston from 2012 – 2018.
- Conducted logistic regression and proportionality tests (chi-square test), linear correlation tests (Spearman rank test) and ANOVA to find a 3.25 % association.

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 (**R(k)**) between original time series and simulated time series for **k > 0** and observed that 1st and 2nd autocorrelation have percentage difference of 0.4 % and 14.7 % respectively.
- Performed Goodness of Fit test at 5 percent significance level to determine if two-step transition matrix is a Markov Chain.

EXTRA ACADEMIC ACTIVITIES

- Portfolio - HackerRank - StackOverflow - Coursera - Brilliant - InterviewBit
- Contributed to an open-source organization named **SymPy** during a GSoC application.
- Ranked in the top 100 in a CodeSprint, an algorithm competition, on **HackerRank**.