SUJAY RASTOGI

Course : **M.Sc. (Hons.)**, Mathematics and **B.E. (Hons.)**, Computer Science, 2024
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ACADEMIC DETAILS

COURSE	SPECIALIZATION	INSTITUTE/COLLEGE	BOARD/UNIVERSITY	SCORE	YEAR
CLASS XII	SCIENCE	City Montessori School, Gomti Nagar - I, Lucknow	ISC	96.25 %	2019
CLASS X		St. Francis' College, Lucknow	ICSE	94.8 %	2017

Subjects / Electives	Graphs & Networks, Data Structures & Algorithms, C-Programming, Object-Oriented Programming, Database Systems, Machine Learning, Foundations of Data Science, Applied Statistical Methods, Probability & Statistics, Optimization
Technical Proficiency	Java, Python, JavaScript, NetworkX, Tkinter, NumPy, Pandas, Matplotlib, Seaborn, statsmodels, Scikit-Learn, OpenCV

SUMMER INTERNSHIP / WORK EXPERIENCE

Software Development Intern, Amazon **May 2023 - Jul 2023**
'MyHR LiveHelp Feature Enhancements' ***[React, TypeScript, Java]***
- Developed the **read-receipt feature** in the **LiveChat of MyHR**, which is a **tool for Amazon employees** to **contact HR** support for their needs.
- Provided **support to 22 languages**, **deployed the feature** end-to-end, and **enabled** the receipts for the **agent portal**.
- **Standardized** the **post-chat survey** form across the **7 business lines** and correctly **tagged the form** with the associated business line.
- **Updated** a current **API to send popstar flags** and consumed them in the UI for **feature control**, allowing a new feature to be **released in waves.**

Summer Intern, Indian Institute of Management (IIM) Lucknow **Jun 2021 - Jul 2021**
'Stock Market predictions using ARIMA models' ***[Pandas, NumPy, Seaborn, and statsmodels]***
- Worked with **Dr. Alok Dixit** (Assoc. Prof, Dept. of Finance & Accounting), on **time series modeling and forecasting** of the **NIFTY 50 TRI** data.
- Performed **data cleaning, exploratory data analysis, and applied and compared time series models** like AR, MA, ARIMA, SARIMA, and ARCH.

Summer Intern, Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam **May 2021 - Jul 2021**
'Development of Computer Vision tools for Feature Recognition in Microscopic Images' ***[Matplotlib, Scikit-Learn, Scikit-Image, and OpenCV]***
- Developed ML pipeline for **data-driven classification** tasks and **automated labeling and analysis of microstructural images**.
- Leveraged Image Processing & Computer Vision techniques for **feature identification** and measurement to obtain a **77% matching score**.

PROJECTS

Virus Spread in Social Network Modeling - Network Modeling **Jan 2023 - Present**
- Working with Dr. Ahad Zehmakan (of ANU) to model **virus spread in a social network** to find interventions to **reduce the population affected.**
- **Performed simulations** and **proposed & developed experiments** to reduce the virus spread by using network properties.
- **Currently working on developing strategies based on network properties and their physical significance to devise more effective solution.**

Graph Algorithms for dimensioned floorplans - Graphs, Python Development, Floorplanning **Jul 2022 - Present**
- Developing **GPlan,** a **software** that accepts **graph-based input** to generate architectural floorplans.
- Devised an **algorithm** to generate floorplans for **one connected graphs** and implemented **dimensioning** to **rectangular and non-rectangular rooms.**
- Added **block symmetry** in floorplans for both one-connected & biconnected graphs and working on **graph transformation** to **reduce the complexity.**

Monopoly Simulator - Development in Java **Oct 2021 - Nov 2021**
- **Simulated** the classic US variant (2008 - 2021) of the **Monopoly game** implementing the concepts of object-oriented programming in Java. [code]
- Created **UML diagram,** implemented **design patterns** and developed a **GUI using Javafx** to display the game board while the players are playing.

POSITION OF RESPONSIBILITY

Teaching Assistant - BITS Pilani **Jan 2023 - Dec 2023**
- **Machine Learning:** Teaching **R programming** with a focus on using R libraries to implement machine learning algorithms to **50+ undergraduate** students.
- **Microprocessor Programming & Interfacing:** Developed study material and taught **Assembly Language programming** to **40+ sophomores**.
- **Computer Programming:** Taught **basic concepts of Unix** and **programming in C** to **100+ freshmen**.

Core Committee Member - Microsoft Learn Student Ambassador (MLSA), BITS Pilani Chapter **Sep 2019 - Present**
- Helped in **ideation and organisation of Cyber Houdini**, a capture the flag event in APOGEE (the annual college Techfest) 2021
- Arranged a **workshop from Microsoft professionals on Azure** & **participated in** Indian Workshop on Applied Deep Learning (**IWADL**).

AWARDS AND RECOGNITIONS

Project exchange student with TU Braunschweig | Indo-German Centre for Sustainable Manufacturing **Sep 2022**
- Selected for a collaborative sustainability project on process optimization using mixed reality.

ACM IKDD Uplink Intern | SIGKDD, ACM India **May 2022**
- Among the 10 students (out of 300+) selected for a deep learning project with ACM India.