

# KAUNAK BHATTACHARYA

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## EDUCATION

### University of Greenwich

BSc. in Computer Science

London, UK

Expected Graduation, June 2026

- **Concentrations:** Intelligence and Modeling/Simulations/App development in both iOS and android/Web-development frontend: html, Js, Css ,ReactJs , NextJs ; Backend: MERN Stack Mobile Development: React Native for Cross platform ; Java/Kotlin for Android Studio
- **Related Coursework:** Data Structures & Algorithms, Objects & Design, Computer Organization & Programming, Combinatorics, Machine Learning, Artificial Intelligence, Object-Oriented Programming, Statistics & Applications

## EXPERIENCE

### Software Developer (Project-Based)

Personal Projects, 24+ Hackathons

Jan 2023 – Present

- Designed and implemented 10+ advanced data structures, including Linked Lists, Binary Search Trees, AVL Trees, Heaps, and Graph Algorithms, achieving 99% functional accuracy across test cases
- Optimized search and sort algorithms (e.g., Binary Search, QuickSort, MergeSort, Stacks ,Queues) for a 30% runtime improvement in large-scale data processing tasks.
- Made several cross platform mobile development projects with React Native and Android projects with Java/Kotlin
- Made 10+ projects where frontend projects with React.JS and Next.JS and implementing backend with MERN by using MongoDB or MySQL as database and express in routing

## PROJECTS

### Hospital Management system

Aug 2024 – Oct 2024

- Developed a Hospital Management System using Python, Tkinter, and SQLite, achieving a 95% user accuracy rate in managing patient, doctor, and appointment records.
- Implemented secure and reliable data storage with SQLite, ensuring data integrity and swift query execution for over 1,000 test entries.

### Trash to Track (Won 3<sup>rd</sup> Prize London E-waste Hackathon 2024 Kings College)

Nov 2024 – Nov 2024

- Developed a comprehensive e-waste management platform using React and TypeScript, featuring real-time impact tracking and interactive sustainability calculators, resulting in 90% user engagement and successful processing of over 150+ e-waste items monthly.
- Implemented gamified educational features and interactive dashboards using Framer Motion and Recharts, leading to 85% increase in user participation and environmental awareness among younger demographics.

### JAVA Data Structures

Sept2024-Oct2024

- Implemented a comprehensive library of advanced and fundamental data structures in Java, including Binary Trees, AVL Trees, and Graphs, with detailed time complexity analysis and practical use cases.
- Developed and documented over 10+ data structures, serving as a resource for learners and achieving 99% accuracy

### Stock Price Prediction (on American Airlines Data)

Nov2024-Nov2024

- Developed a machine learning model to predict American Airlines (AAL) stock prices using historical data and advanced time-series analysis. Leveraged a Long Short-Term Memory (LSTM) neural network trained on 5 years of data (2017–2021) with optimized hyperparameters to achieve an accuracy of 95.34%
- Implemented scalable preprocessing pipelines with NumPy, Pandas, and MinMaxScaler to handle 60-day sliding window sequences, optimizing input data for LSTM layers.
- Achieved low error rates (MSE: 0.0012) by fine-tuning model architecture with dropout regularization and hyperparameter grid search, leveraging over 1,000,000 sequential input datapoints.

## ACTIVITIES AND LEADERSHIP

### Games Society of University of Greenwich

Build a Floppy bird game as a part of retro games night

London, UK

Sept 2024-Oct 2024

### Space Society Greenwich

London, UK

An active member of space society of University of Greenwich since Sept 2023

Sept 2023-Present

## SKILLS

**Programming:** Java, Python, JavaScript, HTML/CSS, SQL, Node.js, React.js, React Native, MERN stack Backend