

## KARTIKE CHAURASIA

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### EDUCATION

**University at Buffalo, The State University of New York**

Bachelor of Science in Computer Science, **Tau Beta Pi – Member**

**Anticipated December 2023**

**GPA: 3.80/4.00**

- Matthew Grappone Memorial Award
- Professor Charles M. Fogel Scholarship
- David M. Benenson Memorial Scholarship
- 2022 Leaders in Excellence Award
- 2022 Emerging Student Leader – Nominee
- 2023 Innovative Student Leader Award

### SKILLS

**Technical:** Java, Scala, JavaScript, Python, C, Go/Golang, HTML, React.js, MongoDB, MySQL, PostgreSQL, Git, Linux, Docker, Postman

**Computer Science Concepts:** Computer Vision and Image Processing, Machine Learning, Distributed Systems, Algorithms for Modern Computing Systems, Software Engineering, Web Applications, Algorithms and Complexity, Data Structures, Systems Programming

### RELEVANT WORK EXPERIENCE

**Head Teaching Assistant: Data Structures & Algorithms, University at Buffalo**

**August 2022 – Present**

- Facilitate weekly tutorials for 10 hours, aiding students in mastering concepts related to **data structures and algorithms**
- Conduct reviews weekly, provide individualized instruction, **debugging** and **troubleshooting** assistance for 40 students
- Analyze and collaboratively grade assignments for a **cohort of 300 students**, maintaining rigorous academic standards

**Software Engineering Intern, Stark & Wayne LLC**

**June 2022 – August 2022**

- Engineered the UI/UX for Genesis UI, a **Docker** based web application, a versatile deployment framework for systems deployment across various infrastructure clouds using BOSH, and simplifying the deployment
- Worked within a team of 4 to streamline the **deployment, scaling, and upgrading of systems** like Cloud Foundry across multiple cloud infrastructures, enhancing the security and efficiency of web application components
- Developed backend APIs in **Golang** using **Gin web framework** to store, update deployments in **PostgreSQL** database container, adding functionalities using **React.js** and implemented seamless deployment data integration using **GitHub API**

### PROJECTS

**Stock Predictor: Machine Learning: [Github Link](#)**

**June 2023**

- Implemented a **Random Forest Regressor model** and utilized the **yfinance** library for data from **Yahoo Finance API**
- Optimized the Random Forest model using **GridSearchCV** for hyperparameter tuning, identifying the best parameters from given ranges for the **number of estimators, maximum features, minimum samples split, and bootstrap option**
- The model achieved a **Mean Absolute error of 0.975, Mean Squared Error of 1.763, and a Root Mean Squared Error of 1.328**, indicating a relatively accurate performance in predicting the stock closing prices

**Machine Learning Optimization & Airline Flight Pricing Analysis**

**March 2023**

- Constructed a machine learning model using Python to optimize and predict flight pricing based on a **dataset encompassing 300,153 entries across 11 categories**
- Enhanced the model's performance through systematic optimization of hyperparameters: learning rate and max iterations, achieving a **peak accuracy of 95.52%**, model's effectiveness in correctly predicting flight pricing, based on the given dataset
- Applied **logistic regression** to interpret feature influence on pricing outcomes, **managing large datasets efficiently** and **incorporating regularization** to avoid overfitting

**NEXT-LEVEL: Gamifying Leadership Conference: [Github Link](#)**

**February 2023**

- Developed a **Python based TCP Handler, MongoDB database, and an ADA-compliant front end** for efficient task completion
- Implemented a dynamic account login and registration system, which automated point allocation to teams upon successful task completion during the conference
- Leveraged web sockets to create a live, real-time scoreboard, significantly **reducing manual calculations and workload by up to 90% compared to the prior conference**

**UBay: E-commerce Website for University at Buffalo: [Github Link](#)**

**December 2022**

- Led a team of 4 to develop an eCommerce platform for University at Buffalo stakeholders using **React.js, FastAPI Python-based framework, Sass for CSS, and PostgreSQL for the database**
- Designed a secure user account authorization system employing **bcrypt** library and implemented session cookies
- Devised an auction feature using web sockets with real-time bid tracking for the highest bidder when an auction ends

### LEADERSHIP EXPERIENCE

**Student Engagement Ambassador, University at Buffalo**

**August 2021 – Present**

- Advise and mentor **12 - 20 students per semester** to help increase campus engagement and foster development

**Resident Advisor, University at Buffalo**

**August 2022 – Present**

- Oversee administrative tasks including budgeting, incident reports, and resident check-ins for a dorm **housing 200+ students**