

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: [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: [Github Link](#)

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 by implementing it from scratch** 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**