

# Tarj Mecwan

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## EDUCATION

California Polytechnic State University, San Luis Obispo

Expected Graduation May 2025

B.S. - Computer Science

**Coursework:** Data Structures, Algorithms, Databases, Discrete Mathematics, Data Science, Linear Algebra, Differential Equations, Web Design and Development, Probability and Statistics, Economics, Systems Programming

## SKILLS & TECHNICAL TOOLS

**Languages:** Java, Python, SQL/SQLite, JavaScript, HTML/CSS, Scheme, C++, SystemVerilog, Processing

**Technologies:** Git, Apache Spark, AWS, Regex, Jupyter Notebook, ReactJS, Flask, scikit-learn, Plotly, Dash, Matplotlib

## EXPERIENCE

Software Engineer Intern | Altura

June 2023 – Sept 2023

- Expanded the application's logging system, enhancing its security, and adapting it to meet compliance needs which decoded data packets for the users'
- Developed a web app that hosted online marketplace auctions and performed calculations on the collected data in an Agile team
- Led successful integration of NFT marketplace across diverse gaming communities, driving engagement and revenue through innovative blockchain technology solutions.

Software Engineer Intern | NYX Inc.

June 2022 – Sept 2022

- Designed and developed a commenting based discussion feature on the task review form to remove dependence on an external ticket system by enabling in-app information evaluation and communication
- Defined new RPC actions and protocol buffers to handle stubby calls from angular components and service actions in the front-end by deploying a client service to modify an SQL database
- Enhanced the Embark front-end testing infrastructure by adding custom selector-definition support in screenshot comparisons, improving developer productivity and tool maintainability

Software Engineer Intern | Altura

May 2021 – Sept 2021

- Reduced engineers' investigation time from several days to 1 minute by building a PHP framework and React UI that automates a 25-step manual process for identifying 50 possible root causes of a demonetized video
- Optimized 3 APIs called 15K times per seconds by consolidating duplicate code and removing dead code
- Scoped and implemented 3 projects milestones by searching the Ads code base, completing project 1 week early

## PROJECTS

Pathfinding Visualizer | Java

August 2023

- Developed a path-finding visualizer project incorporating prominent algorithms, including Dijkstra's algorithm, A\* algorithm, and breadth-first search (BFS), to simulate and visualize optimal routes in real-time
- Implemented interactive features, allowing users to set obstacles, adjust visualization speed, and manipulate start/end points, enhancing user experience and demonstrating proficiency in user interface design and interactivity
- Utilized Python and visualization libraries, such as Pygame and Matplotlib, to create an intuitive and visually engaging application, showcasing strong programming skills and a deep understanding of algorithmic problem-solving

Twitter Sentiment Analysis | Python

April 2023

- Developed a Twitter Sentiment Analysis project using Python, analyzing over 10,000 tweets with 90% accuracy and processing an average of 500 tweets per second.
- Employed natural language processing (NLP) techniques and machine learning algorithms to process and classify tweets, leveraging advanced Python libraries like NLTK and scikit-learn to extract valuable insights from unstructured data.
- Implemented a scalable and efficient solution by integrating Twitter's API, enabling seamless data retrieval and analysis, empowering businesses to make data-driven decisions and gain a comprehensive understanding of their brand's online reputation