

## MALLIKA DASGUPTA

[mdasgupta@ucsd.edu](mailto:mdasgupta@ucsd.edu) , +1(619)762-8722

### SUMMARY OF QUALIFICATIONS

A passionate Computer Science undergraduate with industry experience in AI, machine learning, and software engineering with a growing interest in embedded systems. Skilled in developing impactful projects to include an AI-powered tumor detection system, and a credit appraisal system. Showcasing strong skills in frontend and backend development and data driven decision making. Dedicated to solving real-world problems through innovative technology. Skilled in working collaboratively in multidisciplinary teams throughout the development process to include, research, testing, debugging, development etc.

### SKILLS

**Languages:** Java, Python, HTML, CSS, Javascript, SQL, C, C++

**Tools and Frameworks:** Flask, React.js, Node.js, TensorFlow, Scikit-learn, Git, GitHub, Arduino IDE

### EDUCATION

**UNIVERSITY OF CALIFORNIA SAN DIEGO**

**2023-2027**

Computer Science Major (3.842 GPA)

### CERTIFICATIONS

Certified in Java programming, Python, and machine learning from Coursera, UC San Diego, Duke University, and the University of Michigan, covering Object-Oriented Programming, Data Structures, and key topics in Machine Learning and Data Science.

### EXPERIENCE

**Nucsoft Ltd Software Engineering/ML Intern**

**July-September 2024**

- Developed** a Credit Appraisal System utilizing XGBoost, Random Forest, and Linear Regression models for data-driven loan underwriting, with a modular Python (Flask) backend supporting real-time model retraining and predictions.
- Designed** a React.js frontend integrated with REST APIs via Axios for model selection, evaluation, and loan approval, improving underwriting efficiency and decision accuracy across loan products.
- Implemented** advanced clustering algorithms for a vector-based property deduplication system, optimizing asset verification by identifying duplicates based on customizable rules for name, location, and area.
- Engineered** API workflows in Node.js and Python, enabling real-time deduplication, reducing data redundancy, and enhancing the accuracy of property verification across large datasets.

**Xpertifi Skills Tech Web Development Intern**

**July-September 2024**

- Developed** a range of interactive financial calculators using React.js, including Recurring Deposit, SIP, Simple Interest, EMI, and Compound Interest calculators, handling complex financial computations and dynamic user input.
- Implemented** real-time calculations for various financial metrics (e.g., future value, total interest, EMI amounts), integrating JavaScript math libraries to accurately compute compound interest, SIP returns, and EMI values based on principal, rate, and time inputs.
- Designed** a responsive UI using CSS3 and React hooks, ensuring cross-platform compatibility and a seamless user experience.

### ADDITIONAL PROJECTS

**Triton Consulting Group | Project Manager**

**January 2025**

- Leading the development** of a MERN stack-based application portal to replace Google Forms and Sheets for Triton Consulting Group's recruitment process.
- Implementing** Google OAuth authentication, allowing different user roles: applicants, associates, and admins to access relevant functionalities.
- Developing** an intuitive UI for applicants to submit and track applications, and for associates/admins to review and manage applications within "Rejected," "Under Review," and "Accepted" categories.
- Overseeing database management** and security, ensuring API keys are protected via .env files.

**Music Hit Prediction AI Algorithm**

**June 2022**

- Developed** a sophisticated algorithm using Python to predict a song's popularity using Spotify's extensive song database.
- Utilized** multiple classification techniques, including Logistic Regression, Support Vector Classifier (SVC), K-Nearest Neighbors, Gaussian Naive Bayes, Multi-Layer Perceptron (MLP) Classifier, and Recurrent Neural Networks (RNNs) with LSTM cells.
- Achieved** improved accuracy and identified RNNs with LSTM cells as the best-performing algorithm for predicting hit songs.

**AI-Powered Tumor Detection System**

**June 2022**

- Developed** an AI model using Python for the precise detection of tumors from mammary biopsy samples.
- Employed** numerous classification algorithms, including Logistic Regression, Support Vector Classifier, Multiple Logistic Regression Classifier, and Decision Tree Classifier.
- Applied** data analysis to optimize model accuracy and minimize false positives.

**CSES E/Acc MuscoresPlus | Machine Learning Developer**

**November 2024**

- Developing** an AI-powered application that converts music audio into sheet music and vice versa using machine learning models.
- Researching** deep learning algorithms to enhance music transcription accuracy.