

# Ritam Chakraborty

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## EDUCATION

### University of California, Berkeley

Berkeley, CA

Bachelor of Arts in Data Science

- **GPA:** 4.0
- **Relevant Coursework:** Principles and Techniques of Data Science, Data Structures, Foundations of Data Science, Structure and Interpretation of Computer Programs, Linear Algebra & Differential Equations
- **Student Organizations:** Piedmont Consulting Group, Space Enterprise at Berkeley

## SKILLS

**Languages:** Python, Typescript, Javascript, SQL, Java, HTML, CSS, Dart, R

**Libraries:** Pandas, NumPy, Matplotlib, React.js, Next.js, Flask, FastAPI, Tensorflow, Sklearn, Flutter

**Developer Tools:** Git, Anaconda, Jupyter Notebook, VS Code, IntelliJ, Android Studio, Vim

## EXPERIENCE

### BalnceAI

Remote

Machine Learning Consultant

02/2025 – Present

- Built Neo4j & Elasticsearch memory layers, improving data retrieval speed by 30% for querying 10K+ entities
- Automated LLM parameter testing, optimized performance through 50+ combinations for 15% accuracy gains
- Integrated LLMs with graph/search systems, boosting entity extraction accuracy by 20% for 1M+ documents

### UpUnikSelf

Remote

Frontend Developer Intern

01/2025 – Present

- Crafted and edited 50+ interactive React.js components, contributed to a 20% increase in user engagement
- Optimized page loading speed and API calls by 40% through dynamic rendering and efficient data querying
- Designed intricate layouts for 30+ pages and managed server computing and caching to improve user experience

### Space Enterprise at Berkeley

Berkeley, CA

Simulations Team Member

09/2024 – 12/2024

- Improved the organization's wind speed sampling technique for rocket launching simulations through finding correlations between the launch site average wind speeds at 47 different altitudes on 164 different days
- Formulated regression models to predict wind speeds for nearby altitudes, increased accuracy by 18%
- Migrated a Data Analysis GUI to Next.js + FastAPI, reduced data processing time by 30% during launches

### Bambuser

Remote

Project Management Intern

06/2022 – 07/2022

- Consulted 10 marketers and developers, determined 3 high-impact features that increased user retention by 10%
- Developed distribution plan and product announcements for "Virtual Try-On" feature for Live Video Shopping
- Pioneered team to improve internal communication for 150+ employees, reducing email response times by 20%

## PROJECTS

### Image Recognition for Medicine Package Quality Control | Python, Pandas, NumPy, Matplotlib, Sklearn, Tensorflow

- Preprocessed synthetic images of medicine packages and trained multiple image classification models on them
- Leveraged edge detection for feature extraction and transfer learning for optimizing deep learning algorithms
- Compared efficacies between Convolutional Neural Networks (CNNs) and common machine learning classifiers
- Published methodology and recommendations for future implementation in an academic journal as sole author

### Equinet | Javascript, React.js, Next.js, Node.js, TailwindCSS, Firebase

- Assembled a full stack web application which aims to totally democratize access to private investments
- Framed an authentication system, database structure, and user interface to connect investors to fund managers
- Released a prototype to a group of ~50 investors and partnered fund managers to integrate user feedback

### Coefficient of Determination ( $R^2$ ) Visualizer | Javascript, HTML, CSS

- Composed an educational website to visually demonstrate how  $R^2$  is calculated for two variable data in statistics
- Constructed a user interface that enables users to plot points on a plane to be harnessed for linear regression
- Transferred website to a high school Advanced Placement Statistics teacher to teach  $R^2$  to 100+ students per year

### Uno | Java

- Remade Uno complete with a graphical user interface (GUI) and game mechanics using custom animations
- Created local server and client handler so close by users using separate systems can play a single game together
- Instituted a multithreaded server environment to read/write data streams so UI accurately updates for all clients

### Retro Game Chrome Extension | Javascript, HTML, CSS

- Migrated classic arcade games in a small browser extension window for simple and convenient user access
- Devised artificially intelligent (AI) opponents from the ground up and manually refreshed animation frames