

Ritam Chakraborty

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EDUCATION

University of California, Berkeley

Bachelor of Arts in Data Science

GPA: 3.96 • Berkeley, CA

Expected Graduation: 05/2027

- **Relevant Coursework:** Data Structures (A), Principles and Techniques of Data Science (A), Linear Algebra and Differential Equations (A), Discrete Mathematics and Probability Theory, Multivariable Calculus

EXPERIENCE

Founding Engineer

SomeIdea AI

Berkeley, CA

03/2025 – Present

- Promoted from Intern to Founding Engineer in recognition of exceptional performance at a startup building AI-driven solutions to streamline research and analysis workflows for buy-side investment professionals
- Spearheaded development of a transcript analysis tool that leveraged natural language processing (NLP) to condense 100+ pages of financial documents into concise investor summaries, distributed to 50+ paid users
- Designed schema to standardize financial document ingestion, reducing downstream data-cleaning by 35%
- Engineered pipelines to migrate 100+ documents from Google Cloud to AWS Relational Database Service

Backend Developer

Berkeleytime

Berkeley, CA

09/2025 – Present

- Deployed features for UC Berkeley's premier course discovery and planning platform that serves 10,000+ users
- Enhanced GraphQL schemas and operations to enable monitoring of class capacity during enrollment periods
- Incorporated jobs to monitor enrollment data and alert users when tracked classes reached capacity thresholds
- Collaborated with frontend, product, and design teams to develop APIs supporting new course tracking tools

Machine Learning Consultant

Balnce AI

Remote

01/2025 – 05/2025

- Fine-tuned LLMs for entity extraction, achieving 25% accuracy improvement over baseline Qwen performance
- Created data quality monitoring framework with anomaly detection to flag inconsistencies in training data
- Developed data generation and validation pipelines in Python producing 1,000+ synthetic training examples
- Automated testing framework for 50+ hyperparameter combinations, reducing manual tuning time by over 80%

Frontend Developer Intern

UpUnikSelf

Remote

01/2025 – 03/2025

- Created 50+ interactive React.js components featuring state management, API integrations, and animations
- Optimized API response times by 40% through implementation of request batching and caching strategies
- Integrated usage analytics to track engagement, generating insights that informed product design improvements
- Designed responsive layouts for 30+ pages using various layouts, improving user experience across devices

PROJECTS

Portfolio Management Risk Estimator ↗ • *Java, Spring, SQL, PostgreSQL, TypeScript, React.js, Next.js*

- Implemented scheduled jobs to fetch and store market data for top 50 companies into a PostgreSQL database
- Computed portfolio risk metrics including Value at Risk using Monte Carlo simulations and Sharpe coefficients
- Enforced PostgreSQL connection pooling, reducing data retrieval latency by 40% for real-time risk calculations
- Created Next.js frontend for portfolio creation and risk visualization, integrated with Spring Boot REST API

Chess Tablebase Generator ↗ • *C++*

- Programmed a retrograde analysis engine to solve 3-6 piece chess endgames across over 3 trillion positions
- Engineered a custom state encoding scheme with symmetry pruning and Zobrist hashing to minimize storage
- Incorporated probabilistic inference and value propagation across game trees to determine position evaluation
- Built multi-threaded architecture with work queue distribution reduce processing time from weeks to days

Image Recognition for Medicine Package Quality Control ↗ • *Python, Pandas, NumPy, Tensorflow*

- Applied edge detection algorithms and transfer learning techniques to detect defects in medicine packaging
- Implemented dual-perspective system analyzing side and top-view images to classify package defects
- Compared performance between trained neural networks against traditional machine learning classifiers
- Published methodology and implementation recommendations in an academic journal as the sole author

SKILLS

Languages: Python, Java, C++, Go, SQL, TypeScript, JavaScript, HTML, CSS

Frameworks: Flask, FastAPI, Spring, Spring Boot, Node.js, Express.js, React.js, Next.js, Vue.js

Libraries: Pandas, NumPy, TensorFlow, PyTorch, Apache Commons, Axios, Tailwind CSS

Other Tools: Docker, Git, Linux, PostgreSQL, GraphQL, Jupyter Notebook, Firebase, Supabase