

SHREYA GUPTA

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Education

University of California, Berkeley

GPA: 3.661

B.A. in Computer Science

Aug. 2021 – Dec. 2024

(Honors) B.A. in Data Science - *Domain Emphasis : Economics*

Aug. 2021 – May 2024

Relevant Coursework

- | | | | |
|---------------------------|---------------------------|--------------------------|-------------------------|
| • Data Structures | • Data Mining & Analytics | • Probability Theory | • Natural Language |
| • Artificial Intelligence | • Software Engineering | • Computer Architecture | Processing |
| • Efficient Algorithms & | • Database Systems | • Multivariable Calculus | • Algorithmic Economics |
| Intractable Programs | • Linear Algebra | • Computer Security | |
| • Machine Learning | • Discrete Math & | • International Business | |

Experience

U.C. Berkeley College of Computing, Data Science, and Society

Aug. 2023 – Current

Head Teaching Assistant | Data100 (Principles & Techniques of Data Science)

Berkeley, CA

- Coordinating course logistics for 1000+ students and collaborating with Professors to *create* exams.
- Assisting (200+ students so far) with foundational data science concepts like **clustering, OLS and logistic regression, regularization, cross-validation, gradient descent, data wrangling, text analysis, and EDA**.
- Updated and optimized a **Python** script to automate the grading of lecture attendance , significantly reducing manual grading time and increasing efficiency.

TechCarrot

May 2024 – Aug. 2024

Software Engineering & Data Analyst Intern | Digital Transformation Solutions

Dubai, UAE

- Collaborated with the software team to research and develop **LLM solutions** for TechCarrot's clients, involving the integration and optimization of APIs using **LlamaIndex** and **OpenAI** with **Flask**
- Developed a dashboard for Ducab- a leading global provider in the energy sector- using **Microsoft Fabric** tools, including **Spark** for data generation and transformation on sample datasets, and **PowerBI** for creating the final report.

Arta Finance

May 2023 – Aug. 2023

Research & Software Engineering Intern | Quantitative Finance

Mountain View, CA

- Conducted multivariate normal risk factor analysis using MSCF's Barra data to develop and test **Java-based software** for constructing diversified (low beta) portfolios, using advanced **optimization** and noise reduction techniques, and insights from "Robust Portfolio Optimization and Management" to achieve superior risk-adjusted returns.
- Utilized **Protocol Buffers** for efficient data serialization and **GitHub** to organize modifications and assign tasks.
- Collaborated with the Engineering Team to enhance the performance and scalability of financial modeling software, ensuring efficient processing of large datasets using tools such as **Bazel** and **Redis**.

Research & Projects

A Quantitative Assessment of STEM Summer Bridge Programs | *Honors Thesis, FIE 2024*

2023 – 2024

- **Publications:** Authored two papers accepted at the **Frontiers in Education 2024 Conference (FIE 2024)**
- Utilized A/B testing, correlation analysis, ratio analysis, sentiment analysis, and logistic regression to evaluate the academic impact of a bridge program on non-academic indicators and academic performance online vs in-person.

Private Projects | *Detailed descriptions and access to [private GitHub repository](#) available upon request*

2022 – 2024

[Concurrency, Query Optimization, and Data Recovery Pipeline], Creating a Neural Network from Scratch

Public Projects

2021 – 2024

[Recommender System from Scratch](#), [Analyzing Covid-19 cases vs Deaths](#), [2D tile-based world exploration engine](#)

Leadership

College of Computing, Data Science, and Society (CDSS)

Aug 2023 – Present

Advisory Board Coordinator + Student Representative for the Undergraduate Study Committee

U.C. Berkeley

- Lead bimonthly strategic meetings with the Leadership at CDSS, shaping critical college policies on outreach, admissions, peer advising, club recruitment, professional development, and aspirations for alumni experience.
- Represent undergraduate students on the Committee, contributing to policy development for major admissions and academic accessibility.

Technical Skills

Languages: Java, Python, C, SQL, Risc-V Assembly, Pseudocode, (MongoDB) MQL, R, Ruby, HTML, JavaScript, CSS

Libraries and Frameworks: Pandas, NumPy, Scikit-learn, Matplotlib, Seaborn, PyPlot, PyTest, Gensim, Keras, TensorFlow, PyTorch, DistilBERT, Spark, Flask

Tools and Technologies: Jupyter, IntelliJ, Apache Beam, Venus, Logisim, VSCode, PyCharm, MapReduce, OpenMP, Open MPI, Microsoft Fabric, LlamaIndex, OpenAI, Rails framework, GDB (GNU Debugger), vim, Heroku, Streamlit

Professional Certificates:

- Python for Research (*by Harvard University via edX*): Language Processing, Analysis of Social Networks, Prediction of Physical Activity from Tri-Axial Accelerometer Data.
- Statistical Thinking for Data Science & Analytics (*by Columbia University via edX*): Data Collection, Predictive/Exploratory Data Analysis and Inference Processes, Data Visualisation, and Bayesian Inference.