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

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 MSCI'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**.

Publications & 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.