

# ADAM MCNELIS MAHMOUD

Berkeley, CA 94704 | January 2024

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## EDUCATION

### University of California, Berkeley

B.A. in Data Science - concentration in Applied Math and Modeling

B.A. in Applied Mathematics - concentration in Numerical Analysis

August 2022 – May 2026 (Expected)

Berkeley, CA

GPA: 3.9

## EXPERIENCE

### Data Analyst

September 2023 – Present

Enrollment Management (EM) Department, UC Berkeley

Berkeley, CA

- Query, clean, and visualize university demographic and academic data using Tableau, Excel, Python, and SQL.
- Collaborate with department heads and data analysts to communicate data insights, both in technical terms and in clear, accessible narratives, to inform strategic enrollment decisions.
- Conduct data analysis to determine the number of admissions required to meet in-state residency targets for the 2024 academic year, directly contributing to the enrollment of over 800 additional in-state students, a 1% increase compared to previous years.
- Develop the EM website by designing and implementing interactive, data-driven visualizations to showcase enrollment trends and student demographics. Write HTML code for specific elements to ensure accessibility and enhance the user experience.

## TECHNICAL SKILLS

**Coding:** Python, SQL, R, Java, HTML, CSS, JavaScript

**Libraries:** Numpy, Pandas, Scikit-learn, Matplotlib/Seaborn

**Data Analysis Tools:** Tableau, Excel, Google Sheets, Power Bi, ATLAS.ti

**Specializations:** Data Wrangling, ETL, A/B Testing, Predictive Modeling

## EXTRACURRICULAR

### Student Advisory Board Member

October 2024 – Present

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

Berkeley, CA

- Advise the College of CDSS on student needs, priorities, and emerging concerns through regular pulse surveys.
- Contribute to discussions on initiatives including advising processes, diversity and inclusion, and student organization support.

### MPS Scholars Program Mentor

August 2024 – Present

Mathematical and Physical Sciences (MPS) Scholars Program, UC Berkeley

Berkeley, CA

- Mentor students majoring in math, holding bi-weekly group meetings and individual one-on-one meetings.
- Guide students through the MPS department and math major by providing tailored academic advice, sharing personal experiences, and offering support to foster a sense of community and academic confidence.

### Exploring Indian Non-Governmental Organizations (NGO) Distribution

January 2024 - May 2024

Data Science Discovery Program

Berkeley, CA

- Collaborated with Daanmatch to understand how to better allocate funding for over 10,000 NGOs across India.
- Standardized the self-reported NGO addresses (primarily using RegEx) and mapped their geographic distribution, identifying regions with high NGO concentration to inform strategic planning.
- Conducted exploratory data analysis, data cleaning, and visualization using Python (Pandas, Seaborn, Matplotlib), culminating in a poster presentation at the Data Science Discovery Program Symposium.

## PROJECTS

### Spam Email Classification | Python, Scikit-learn, Pandas, Regex, Matplotlib

November 2024

- Developed a logistic regression model to classify over 8,000 emails as spam or not spam, achieving 85% test accuracy through feature engineering and model tuning.
- Utilized advanced text parsing with RegEx to extract key features like word patterns and punctuation frequency, transforming raw text data into optimized inputs for classification.
- Evaluated model accuracy with precision, recall, and ROC curves, iteratively refining the feature set and optimizing hyperparameters to minimize false positives and enhance reliability.

### Cook County Housing Price Prediction | Python, Scikit-learn, Pandas, Matplotlib, Seaborn

October 2024

- Developed a predictive model for housing prices in Cook County using `scikit-learn`, leveraging exploratory data analysis, feature engineering, and linear regression to analyze over 500,000 records.
- Designed a comprehensive data pipeline, including outlier removal, log transformations, and one-hot encoding.
- Evaluated model performance on validation data and mitigated potential biases by analyzing historical disparities in housing data, ensuring fair and accurate predictions.

## RELEVANT COURSEWORK

**Data Science:** Foundations of DS, Computational Structures, DS Principles, Data Structures, Numerical Analysis for DS

**Mathematics:** Multivariable Calculus, Linear Algebra, Discrete Math, Abstract Algebra, Analysis, Complex Analysis