Chase Mathis

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Faculty Reference: David Banks (dlbanks@duke.edu)

Education

- **Duke University** — Durham, NC
  Intended Bachelor's of Science in Statistics, Computer Science, Minor in Math; GPA: 3.9 — *August 2021-May 2025*
  - **Courses**:
    Data Structures and Algorithms, Machine Learning, Linear Algebra, Modern Bayesian
- **Deerfield Academy** — Deerfield, MA
  High School Diploma — *Aug 2017 - May 2021*
  - **Awards**: Cum Laude; AP Honor Scholar

Work Experience

- **Duke Field Hockey** — Durham, NC
  Data Analyst — *Fall 2022 - Present*
  - Using vast amounts of messy data of historical games, I use Python and R to extract insights from the data and visualize them with Tableau
  - Analyze Duke's team over the course of the season using more data to help them know themselves better than their opponent does
- **Duke University Statistics Department** — Durham, NC
  Undergraduate TA — *Fall 2022 - Present*
  - Teach labs in STA 199, Introduction to Data Science, by helping students code in R for the first time and learn basic Statistical practices

Research Projects and Conferences

- **Shared Security and Privacy Advice During Iran's Ongoing Protests** — Duke University
  Dr. Pardis Emami-Naeini — *Fall 2022 - Present*
  - Scrap text data from social media platforms to analyze large trends in computer-security advice given to protesters
- **Predicting Particle Clusters** — Duke University
  Data Mining & Machine Learning — *Fall 2022*
  - Developed a breadth of different models to predict the first four central moments of a particle cluster to help substitute our model for the computationally inefficient numeric solvers used for turbulent systems
  - Investigated the relationship between different parameters and their effect on how particles clustered together
- **Investigating Controllable Factors of Life Expectancy** — Duke University
  Data Mining & Machine Learning — *Fall 2022*
  - Applied Statistical Models to analyze life expectancy and give advice to Health Policy experts
  - Models included: Regularized Regression, Trees, and GAMs to analyze sparse models, interaction terms, and nonlinear relationships
- **MLB Baseball Prediction** — Duke University
  Duke Sports Analytics Club — *Spring 2022*
  - Developed a logistic regression predictive model for MLB game results, and ultimately developed a 66% accurate model
- **Tapia Conference** — Washington D.C.
  Diversity in Computing — *Fall 2022*
  - Attended many talks hosted by diverse speakers regarding modern techniques in AI/ML

Skills Summary

- **Languages**: Python, R, SQL, Java, Proficient in Mandarin
- **Libraries/Tools**: Pandas, NumPy, PyTorch, Tidyverse, Tidymodels, Keras, GIT, Matlab, Tableau, Regex