Chase Mathis

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EDUCATION

Duke University Durham, NC
Intended Bachelor's of Science in Statistics, Computer Science, Minor in Math; GPA: 3.92 *August 2021 - May 2025*
- **Courses**:
  Data Structures and Algorithms, Machine Learning, Linear Algebra, Modern Bayesian

St. Catherine's College Oxford Oxford, UK
Visiting Student for the Michaelmas Term *Fall 2023*
- **Studies**:
  Statistical Inference, Martingales, Lifetime Models

RESEARCH

InSpire Lab Duke University
Mentor: Dr. Pardis Emami-Naeini *Fall 2022 - Present*
- Reserach assistant in a CS Research Lab, focusing broadly on security and privacy
- Currently researching the public's opinion on decentralized social media sites

Google CS Research Mentorship Virtual
Mentorship *Spring 2023*
- Selected to a mentorship program regarding CS research

Predicting Particle Clusters Duke University
Data Mining & Machine Learning *Fall 2022*
- I developed multiple models to predict the first four central moments of a particle cluster
- These models can serve as a substitute for computationally inefficient numeric solvers
- 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
- Thus analyzed sparse models, interaction terms, and nonlinear relationships

WORK EXPERIENCE

Duke Field Hockey Durham, NC
Data Analyst *Fall 2022 - Present*
- I wrangle messy historical game data with Python and R, then visualize insights using Tableau
- Use extensive data analysis to give Duke's team a competitive advantage by helping them better understand themselves and their opponents

Summer Institute in Biomedical Informatics Harvard Medical School
Research Assistant under Dr. Tianxi Cai *Summer 2023*
- Using NLP to extract relevant features from images and vice versa
- Offshoot of CLIP by OpenAI, specific to chest x-Rays

CONFERENCES & TEACHING EXPERIENCE

Tapia Conference Washington D.C.
Diversity in Computing *Fall 2022*
- Attended many talks hosted by diverse speakers regarding modern techniques in AI/ML

Teaching Assistant Duke University
Undergraduate TA *Fall 2022 - Present*
- STA 199: Introduction to Data Science

SKILLS SUMMARY

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