Chase Mathis

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

EDUCATION

Duke University Durham, NC
Bachelor's of Science in Statistics, Computer Science, Minor in Math; GPA: 3.86 *August 2021 - May 2025*
- **Courses**:
  Data Structures and Algorithms, Statistical Machine Learning, Modern Bayesian, Computer Vision

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

RESEARCH

Summer Institute in Biomedical Informatics Harvard Medical School, DBMI
Research Assistant in the CELEHS Lab *Summer 2023*
- Researching joint embedding model applications (CLIP, ConVIRT) to already established statistical models assigning risk scores to patients from medical codes.
- Extensively used PyTorch/NumPy for modeling and fine-tuning pre-trained transformer models in a large Cloud Computing framework.

InSpire Lab Duke University
Mentor: Dr. Pardis Emami-Naeini *Fall 2022 - Present*
- Research assistant, focusing broadly on security and privacy.
- Currently involved on a survey paper investigating user attitudes towards decentralized social networks such as Mastadon.

Investigating Controllable Factors of Life Expectancy Duke University
Data Mining & Machine Learning Final Project *Fall 2022*
- Applied various different Statistical Models to analyze life expectancy on a large dataset collected by the WHO.
- Able to achieve an MSE of 5.91 with Lasso Regression, 5.15 with a Decision Tree, and 4.84 with a Generalized Additive Model.

Google CS Research Mentorship Virtual
Mentorship *Spring 2023*
- Selected to a mentorship program regarding CS research to explore different pathways in Industry and Academic Research.
- Learned from my mentors how to create a research pathway as a young CS researcher.

WORK EXPERIENCE

Duke Field Hockey Durham, NC
Data Analyst *Fall 2022 - Present*
- Utilizing quite verbose RegEx, I wrangle messy historical game data with Python and R,
  then model and visualize the insights to help the team understand their opponents weaknesses and strengths.
- Created and upkeep a website that allows the team to privately access data reports.

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

SKILLS SUMMARY

- **Languages**: Python, R, SQL, Java, C, Proficient in Mandarin
- **Libraries/Tools**: NumPy, PyTorch/TensorFlow, Pandas, R/Tidyverse, Stan, Transformer Models, AWS (S3, EC2), Git