ETHAN YOUNG

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EDUCATION

University of California, Los Angeles *Senior, Anticipated Graduation 2023*
B.S. Data Theory

RESEARCH INTERESTS

- **Network science**: graph spectra, random graph models, network neuroscience, games on networks, dynamics on networks
- **Machine learning**: inverse problems, graph data mining, deep learning theory, implicit neural networks, manifold learning, optimization
- **Other interests**: quantum game theory, topological data analysis, numerical linear algebra

RESEARCH EXPERIENCE

Undergraduate Researcher August 2022 - Present
Emory University

· Working under Dr. Carl Yang to apply machine learning techniques to genomic data.
· Used dimension reduction and subset selection algorithms to construct a smaller dataset that represents the most important features.

REU Undergraduate Researcher May 2022 - July 2022
Emory University

· Working under Dr. Carl Yang to compare the classification performance of graph kernel methods and graph neural networks (GNNs) on brain network data (constructed from fMRI scans).
· Established new benchmarks for various graph data mining methods on brain network data.
· Worked in a team to publish a manuscript as well as present a talk and poster on the project.

Undergraduate Researcher April 2022 - Present
University of California, Los Angeles

· Working under Dr. Mason Porter to study network perturbations.

Undergraduate Researcher April 2022 - Present
University of California, Los Angeles

· Working under Dr. Yu Song at UCLA PARISlab (Physics of AmoRphous and Inorganic Solids Lab) in the machine learning group.
· Predicted and modeled glass viscosity using symbolic regression and genetic programming.

PUBLICATIONS

Conferences

Comparing Shallow and Deep Graph Models for Brain Network Analysis. IEEE Big Data BrainNN2022 Workshop. Erica Choi, Sally Smith, **Ethan Young**, and Carl Yang.

TALKS

Conferences

IEEE BigData 2022. BrainNN2022 Workshop. Osaka, Japan.

TECHNICAL STRENGTHS

Programming Languages: Python, R, Matlab

RELEVANT COURSEWORK

Machine Learning
Data-Driven Mathematical Modeling
Mathematics of Data Science
Optimization Theory
Data Science Ethics
Network Science
Reinforcement Learning
Numerical Analysis
Monte Carlo Methods
Computational Statistics