Stephen Huan

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stephen-huan

Education

2021–present **Undergraduate**, *Georgia Institute of Technology*, Atlanta, GA
Bachelor of Science in Computer Science, minor in mathematics, expected graduation 05/2024.

- Courses taken: algorithms, machine learning, linear algebra, probability, number theory

2017–2021 **High School**, *Thomas Jefferson High School for Science and Technology*, Alexandria, VA

Experience

Florian Schäfer fall 2021–present **Undergraduate researcher**, *School of Computational Science and Engineering*, Atlanta, GA
Improve state of the art algorithms for sparse Cholesky factorization of dense covariance matrices by using ideas from optimal experimental design and compressive sensing. The resulting algorithm extends k-nearest neighbors to maximize conditional mutual information instead of proximity.

ASSIP summer 2020 **Research intern**, *George Mason University*, Fairfax, VA
Studied improvements to word embeddings by accounting for nonlinear phenomena in language for automated essay grading during the Aspiring Scientists Summer Internship Program (ASSIP).

Awards

$1500, 2022-11 President's Undergraduate Research Award (PURA), turned down due to teaching assistant.

$1000, 2022-08 PURA Travel Award to present at SIAM Conference Mathematics of Data Science (MDS22).

$150, 2022-04 2nd place poster in College of Computing at the Undergraduate Research Spring Symposium.

Talks

2022-10-07 Talk at the Algorithms, Combinatorics and Optimization student seminar at Georgia Tech.

2022-09-28 Talk at the SIAM Conference on Mathematics of Data Science (MDS22).

2022-04-12 Poster session at Georgia Tech's Undergraduate Research Spring Symposium.

2022-02-19 Lightning talk at the Georgia Scientific Computing Symposium.

Projects

lectures spring 2020–present Lectures on various topics in computer science and mathematics, from explanations of the Fast Fourier Transform, using *k*-d trees to speed up *k*-means, to the importance of differential equations in geology, guidance, and physics. https://lectures.cgdct.moe

MAL privacy attack spring 2021 Attack on the popular TV show rating site MyAnimeList (MAL) to reconstruct private users' lists from public information. https://github.com/stephen-huan/MAL-affinity-attack

Interests

Big O Theory Club fall 2022–present Officer of Georgia Tech's official theoretical computer science club in the College of Computing. Responsibilities include preparing lectures, problem sets, and events for weekly meetings.

Rubik's Cubing 7.76 seconds to solve a Rubik's cube and 11.54 seconds one-handed in official competitions.

Skills

Languages Python, LaTeX, Julia, Cython *decreasing familiarity*

OS Linux