

Stephen Huan

✉ slhuan@cs.cmu.edu

🌐 cgdct.moe

🐙 [stephen-huan](https://github.com/stephen-huan)

Education

- 08/2024–present **PhD student**, *Carnegie Mellon University*, Pittsburgh, PA
Computer science department, advised by Andrej Risteski in the machine learning department.
- 08/2021–05/2024 **Undergraduate**, *Georgia Institute of Technology*, Atlanta, GA
Bachelor of science in computer science, minor in mathematics.

Experience

- Florian Schäfer
fall 2021–fall 2024 **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 [1].
- SURF
summer 2023 **Research fellowship**, *California Institute of Technology*, Pasadena, CA
Improved existing Gaussian process earthquake models by implementing new kernel functions and accelerating inference with sparse approximate Cholesky factors while advised by Houman Owhadi.
- Algorithms
spring 2023 **Teaching assistant**, *Georgia Institute of Technology*, Atlanta, GA
Teaching assistant for the upper level undergraduate class Design & Analysis of Algorithms (CS 3510).

Papers

- [1] S. Huan, J. Guinness, M. Katzfuss, H. Owhadi, and F. Schäfer, *Sparse Cholesky factorization by greedy conditional selection*, Jul. 2023. arXiv: 2307.11648 [cs, math, stat].

Awards

- \$1500, 2023-07 Georgia Tech's President's Undergraduate Research Award (PURA).
- \$1500, 2022-11 PURA Salary Award, turned down due to a conflict with 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

- 2024-10-21 Talk at the SIAM Conference on Mathematics of Data Science (MDS24).
- 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.

Interests

- Big O Theory Club
fa 2022–sp 2024 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.
- Technical skills
Python, JAX, Cython, Julia, Nix/NixOS, \LaTeX