



Benjamin Thomas Rolfs

Graduate Institution: Stanford University

Graduate Discipline: Applied and Computational Mathematics

Hometown: Winchester, MA

Relevant SC Research: Advanced Scientific Computing Research

Research Interest:

Gaussian graphical models encode conditional independence relationships between random variables and hence provide a high degree of interpretability to researchers. For example, consider a paleoclimate reconstruction in both time and space, using natural proxies. Graphical modeling is a powerful means of inferring structure on such systems, reducing problem dimension and yielding increased statistical efficiency.

My work in this area has recently included both theory and application. For example, our most recent paper focuses on a novel convex optimization method for generating sparse graphical models. This methodology is investigated theoretically (convergence proofs) and numerically (algorithmic implementation), and applied to paleoclimate data.

Apart from mathematical statistics, my interests also include topics from convex optimization, machine learning, data mining, and linear algebra.

About Me:

At Stanford, I am a member of the Society for Industrial and Applied Mathematics (SIAM) and have worked at Google in a research position. After I finish my PhD, I hope to be employed at a research university with the goal of professorship, or alternatively work as a researcher in another capacity, continuing the work I have done for my thesis.

Outside of work, I enjoy camping, fishing, surfing, board games, jazz trumpet, yoga, skiing, and general aviation.



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