Adam Rumpf

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adam-rumpf.github.io

Education

2020 Ph.D. in Applied Mathematics
Illinois Institute of Technology, Chicago, IL

2011 B.S. in Applied Mathematics for the Life and Social Sciences, Minor in Geological Sciences
Arizona State University, Tempe, AZ

Teaching Experience

Art of Problem Solving Online
Instructor, Mathematics and Python (2020 – present)
Courses included: number theory, Python, precalculus, elementary algebra

Delivered live online lectures and assisted students during lectures and in class forums

Teaching Assistant, Mathematics and Python (2019 – 2020)
Courses included: precalculus, calculus, Python, geometry, elementary algebra, number theory

Assisted students during lectures and in class forums and gave detailed written feedback for project submissions

Illinois Institute of Technology, Chicago, IL
Teaching Assistant, Applied Mathematics (2012 – 2017)
Courses included: calculus, linear algebra, discrete mathematics, statistics, mathematical modeling

Held office hours to answer student questions, wrote and presented Mathematica computer labs, lead recitation sessions, and gave detailed written feedback for mathematics homework and labs

Instructor, Introductory Calculus (2015)

Served as independent lecturer, designed course outline, wrote and presented lectures, and wrote exams, labs, and homework assignments

Instructor, Precalculus (2014)

Served as independent lecturer, designed course outline, wrote and presented lectures, and wrote exams and homework assignments

Ferris State University, Big Rapids, MI
Tutor, Mathematics and Science (2011 – 2012)
Courses included: precalculus, calculus, statistics, physics, chemistry

Assisted students with homework and studying for undergraduate mathematics and science courses during one-on-one and group sessions

Community Involvement and Outreach

Illinois Institute of Technology SIAM Student Chapter, Chicago, IL
Student Chapter President (2016 – 2017)

Awarded a SIAM Student Chapter Certificate of Recognition (2017)

Chicago Area SIAM Student Conference Organizing Committee (2016 – 2017)
Student Chapter Vice President (2015 – 2016)

Related Professional Skills

Programming Languages: C++, Python, Java
Mathematical Software: Mathematica, Jupyter Notebook, CPLEX, MATLAB
Markup Languages: LaTeX, HTML

Professional Affiliations

Society for Industrial and Applied Mathematics
Member (2015 – present)

Publications

2021 H. Kaul and A. Rumpf. Trilevel network interdiction game for the minimum cost flow problem with linear input dependence. In preparation.

H. Kaul and A. Rumpf. Public transit network optimization with social access objectives. In preparation.

H. Kaul and A. Rumpf. A linear input dependence model for interdependent networks. Submitted for publication. arXiv.2102.05248 [math.OC], https://arxiv.org/abs/2102.05248.

2011 J. Ames, A. Feiler, G. Mendoza, A. Rumpf, and S. Wirkus. Determination of Tuscon, Arizona as an Ecological Trap for Cooper's Hawks (Accipiter cooperii). https://mtbi.asu.edu/2011-2.

Conference and Departmental Talks

2020 Public transit network optimization with social access objectives. Department of Applied Mathematics, Illinois Institute of Technology, March 12.

2017 Linear input dependence model for interdependent civil infrastructure systems with network simplex based solution algorithm. 31st Midwestern Conference on Combinatorics and Combinatorial Computing, October 20.

2016 Network simplex based algorithm for the minimum-cost network flow problem with linear interdependencies. Department of Applied Mathematics, Illinois Institute of Technology, April 26.

Introduction to minimum cost flow and the network simplex algorithm. Department of Applied Mathematics, Illinois Institute of Technology, April 19.

Network simplex based algorithm for the minimum cost flow problem with linear interdependencies. Chicago Area SIAM Student Conference, April 16.