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Sam Cole

Curriculum Vitae

Education

2013–2018 **Ph.D., mathematics**, *Univ. of Illinois at Chicago*, Dept. of Mathematics, Statistics, and Computer Science.
Dissertation: "An iterative spectral approach to recovering planted partitions"
Advisor: Shmuel Friedland

2010–2011 **M.S., mathematics**, *Univ. of Illinois at Chicago*, Dept. of Mathematics, Statistics, and Computer Science.
Concentration: mathematical computer science

2006-2009 **B.A., mathematics**, *Oberlin College*.
Minor: computer science

Papers

Sam Cole. Recovering nonuniform planted partitions via iterated projection. *Linear Algebra and its Applications*, 2018.

Sam Cole, Shmuel Friedland, and Lev Reyzin. A simple spectral algorithm for recovering planted partitions. *Special Matrices*, 5(1):139–157, 2017.

Sam Cole and Jamie Quadri. Selfish independent set. In *Midstates Conference for Undergraduate Research in Computer Science and Mathematics*, 2009.

Talks, conferences, & workshops

2017 **Meeting of the International Linear Algebra Society**, *Iowa State Univ.*, Mini-symposium on random matrix theory.
Invited talk: "A simple algorithm for spectral clustering of random graphs"

2017 **Gene Golub SIAM Summer School**, *Akademie Berlin-Schmöckwitz*.

2017 **SIU Mathematics Conference**, *Southern Illinois Univ. Carbondale*, Special session on matrix theory, computation, and applications.
Invited talk: "A simple spectral algorithm for recovering planted partitions"

2017 **Numerical Analysis Seminar**, *Univ. of Texas at Austin*.
Invited talk: "A simple algorithm for spectral clustering of random graphs"

2017 **Scientific and Statistical Computing Seminar**, *Univ. of Chicago*.
Invited talk: "A simple algorithm for spectral clustering of random graphs"

2016 **Graduate Research Workshop in Combinatorics**, *Univ. of Wyoming*.

2016 **Combinatorial and Additive Number Theory**, *CUNY Graduate Center*.
Contributed talk: "Planted partitions in random graphs"

2016 **Optimization and Parsimonious Modeling**, *Institute for Mathematics and its Applications, Univ. of Minnesota*.
Poster: "A Simple Spectral Algorithm for Recovering Planted Partitions" (presented by Shmuel Friedland)

Teaching

2010–2011; 2013–present **Teaching assistant**, *Univ. of Illinois at Chicago*.
Selected courses:
- Precalculus
- Calculus
- Introduction to programming in Python
- Data structures in C++

2016 **Graduate mentor**, *Univ. of Illinois at Chicago*, Mathematical Computing Laboratory.
Project: random geometric graphs

2015–2016 **Lecturer**, *Univ. of Illinois at Chicago*.
Courses:
- Multivariable calculus
- Mathematical Computing Laboratory summer high school workshop in graph theory

2008–2009 **Grader/lab assistant**, *Oberlin College*.
Courses:
- Linear algebra (grader)
- Introduction to computer science I & II (grader and lab assistant)

Awards

2011 **Graduate Student Teaching Award**, *Univ. of Illinois at Chicago*, Dept. of Mathematics, Statistics, and Computer Science.

Industry experience

2012 **Software engineer**, *Datalogics, Inc.*

Programming languages & software

C, C++, Git, HTML/CSS, Java, JavaScript, MATLAB, Python, SciPy