Chandan Tankala

CONTACT INFORMATION

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RESEARCH INTERESTS

Probability theory with applications to problems from theoretical computer science and statistical physics. Current focus area is Markov chain mixing time analysis, Discrete Fourier analysis, combinatorial statistics.

EDUCATION

University of Oregon, Eugene, Oregon, USA (Expected graduation: May 2024)

Ph.D. Candidate, Mathematics

- Advisor: David A. Levin

Texas A&M University, College Station, TX, USA

M.S., Geophysics, 2012

National Institute of Technology, India

Bachelors of Technology, 2009

JOURNAL PUBLICATIONS

1. Fast mixing of a randomized shift-register Markov chain (Accepted and would appear in the Journal of Applied Probability, March 2023)
   https://arxiv.org/pdf/2109.05387.pdf
   (a) Developed a Markov chain for sampling vertices of a hypercube.
   (b) Proved that the mixing time is of order $O(\log n)$ with a phase transition.
   (c) Has applications in cryptography and pseudo-random number generation.

WORK EXPERIENCE

British Petroleum, Houston, TX USA

Geophysicist **2012 - 2015**
Worked on creating and implementing seismic imaging, signal processing algorithms which are broadly based on waveform inversion, wavelet transforms, stochastic optimization.

Intern, Geohazards team **May - Aug, 2011**
Worked on 4D seismic data analysis to characterize potential hazards.

AWARDS

First prize in poster presentation during internship at British Petroleum.

COMPUTER SKILLS

Python,MATLAB,R

COURSES

Combinatorics, stochastic processes, probability theory, machine learning, algorithms, real analysis, abstract algebra, differential geometry.

TEACHING

Calculus I,II,III, Multivariable calculus, Intro to statistics.