

# ANIKET DESHPANDE

## PERSONAL INFORMATION

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## EDUCATION

Expected 2026

**B.S. Physics** University of Illinois, Urbana-Champaign  
Specialization in Mathematical Physics  
Minors in Scientific Computing & Mathematics

## RELEVANT COURSEWORK

- Graduate Optimal Control
- Quantum Information Theory
- Electromagnetism I
- Classical Mechanics I & II
- Relativity & Math. Methods for Physics
- Applied Random Processes
- Real Analysis
- Abstract Linear Algebra
- Statistics & Probability
- Ordinary Differential Equations

## RESEARCH EXPERIENCE

*Advisor: Dr. Marius Junge*  
Sept. 2024– Present Research Scholar, ILLINOIS MATHEMATICS LAB  
Researching quantum random walks on graphs and analyzing their relation to graph Laplacians, quantum channels, and cost (complexity) functions. Simulating mixing times for error models in graph random walks.

*Advisor: Dr. Charles E. Sing*  
Sept. 2023– May 2024 Researcher, THEORETICAL POLYMER PHYSICS LAB  
Simulated coarse-grain models of free-draining bottlebrush polymers using stochastic differential equations and brownian dynamics in C. Visualized relationships between physical properties of polymers using Python.

## WORK EXPERIENCE

*Albuquerque, NM*  
Summer 2024 Ionospheric Analyst, SPACE DYNAMICS LABORATORY  
Developed noise-reduction methods for ionograms using singular value decomposition and machine learning. Built deep learning-based autoscalers for ionograms and researched atmospheric/ionospheric theory.

## SKILLS

*Languages* PYTHON, C/C++, JAVA  
*Frameworks* MATPLOTLIB, SCIPY, NUMPY, PANDAS  
*Utilities* ANACONDA, GIT, JUPYTER, SHELL, L<sup>A</sup>T<sub>E</sub>X

January 19, 2025