

# 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

Sept. 2024– Present Research Scholar, ILLINOIS MATHEMATICS LAB

Advisor: Dr.  
Marius Junge

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.

Sept. 2023– May 2024 Researcher, THEORETICAL POLYMER PHYSICS LAB

Advisor: Dr.  
Charles E. Sing

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

Summer 2024 Ionospheric Analyst, SPACE DYNAMICS LABORATORY

Albuquerque, NM

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