

Aarathi Parameswaran

✉ aarathiparameswaran@gmail.com • 🌐 <https://rtparam.github.io/>

Education

Indiana University <i>Ph.D. in Informatics, Luddy School of Informatics, Computing and Engineering</i> Specialization: Complex Networks and Systems	Bloomington, Indiana 2025–present
University of Bonn <i>M.Sc. in Physics, Bonn-Cologne Graduate School of Physics and Astronomy</i> Specialization: Theoretical and Experimental Physics, Network Science Relevant coursework: Advanced Quantum Theory, Particle Physics, Statistical Data Analysis, Complex Networks and Energy Grids, Quantum Computing, Quantum Optics, Theoretical Neuroscience, Energy Production.	Bonn, Germany 2022–2025
Azim Premji University <i>B.Sc. (Hons) in Physics, School of Arts and Sciences</i> Specialization: Nonlinear Dynamics Minor: Media and Democracy Relevant coursework: Advanced Mechanics, Quantum Mechanics, Nonlinear Dynamics, Solid State Physics, Optics, Thermodynamics, Computing in Physics, Political Philosophy, Media Studies.	Bangalore, India 2019–2022

Experience

Center for Complex Networks and Systems, Indiana University <i>Research Assistant</i> Topic: Bridge Criticality in a Spatial Road Network Supervisor: Prof. Filippo Radicchi Group: Radicchi-Fortunato Lab	Bloomington, Indiana 2026–present
Forschungszentrum Jülich and University of Cologne <i>Master's Thesis</i> Topic: Structural Transitions in Optimal Networks. Supervisor: Prof. Dirk Witthaut. Group: Network Science (Cologne) and Energy Networks and Complex Systems (FZ Jülich).	Cologne, Germany 2024–2025
Institute for Applied Physics, University of Bonn <i>Graduate Assistant</i> Supervisor: Prof. Sebastian Hofferberth. Group: Nonlinear Quantum Optics	Bonn, Germany 2023–2024
Azim Premji University <i>Bachelor's Thesis</i> Topic: Investigating Taylor-Couette Flow. Supervisor: Dr. Kaustubh Manchanda.	Bangalore, India 2021–2022

Workshops & Schools

Complexity Science Winter School <i>Complexity Science Hub</i> Project: Impact of Internet Shutdowns on Collective Action in Conflict Regions.	Vienna, Austria February 2025
Complexity72h Workshop <i>Universidad Carlos III de Madrid</i> Project: Metro Networks Efficiency using Max-Plus Algebra. Supervisor: Dr. Ebrahim Patel.	Madrid, Spain June 2024

Spring College on the Physics of Complex Systems

International Center for Theoretical Physics

Courses: Courses: Statistical Mechanics of Random Matrices, Thermodynamics of Information, Collective Dynamics, RNA Physics.

Trieste, Italy

February 2024

Introductory Summer School on Astronomy and Astrophysics

Inter-University Centre for Astronomy and Astrophysics

Pune, India

May 2022

Gravitational Waves Data Analysis Workshop

International Center for Theoretical Sciences

Bangalore, India

May 2022

Conferences and Talks

NetSci Conference

Contributed Talk

Presentation: Symmetry Breaking in Minimum Dissipation Networks

Maastricht, Netherlands

June 2025

Infosys Science Foundation

Invited Talk

Bangalore, India

July 2022

Awards & Honors

2025: Associate Instructor Fellowship, Luddy School of Informatics, Computing and Engineering

2025: Summer Fellowship, Luddy School of Informatics, Computing and Engineering

2025: Lagrange Fellowship (declined), ISI Foundation, Turin.

2022: International Max Planck Research Scholarship (declined), MPI for Solid State Physics, Stuttgart.

2022: Honor's Degree, Azim Premji University, Bangalore

Skills

Programming: Python, Mathematica, MATLAB, R

Libraries: NetworkX, Qiskit, seaborn, sklearn, iminuit

Typesetting: \LaTeX

Other Achievements and Interests

Student Council: BCGS (2023), Azim Premji University (2019–2021).

Interests: Football (soccer), Reading, Running, Music Instrumentalist, Philosophy of Science, Linguistics.