

Aravinth Krishnan Ravi

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EDUCATION

Kansas State University

Manhattan, KS

PhD in Mathematics

May 2027

Research Interests: Deep learning methods to solve inverse problems

Advisor: Dinh-Liem Nguyen

Nanyang Technological University

Singapore

Bachelor of Science (Honours with Distinction) in Mathematical Sciences (Pure Mathematics)

June 2022

Thesis title: *A conjecture for the eigenvalues of pseudo-Anosov mappings of surfaces* ([Link](#))

Advisor: Andrew James Kriker

AWARDS AND HONORS

Friends of Mathematics Award in Research

Fall 2026

Awarded to the top 2 graduate students every year for research

M&H International Scholarship

Fall 2026

Center for the Integration of Undergraduate, Graduate and Postdoctoral Research Graduate Scholarship

Spring 2026

Awarded for undergraduate research mentorship

Dr. William L. Stamey Mathematics Scholarship

Academic Year 25/26

L. Aileen Hostinsky Memorial Scholarship

Spring 2026

Karl Stromberg Memorial Scholarship

Fall 2025

Kansas State University AI Symposium: Humans and Machines, Best Poster - 3rd Place

Fall 2025

Nanyang Technological University President Research Scholar

Academic Year 19/21

PUBLICATIONS

Submitted

1. D.L. Nguyen, N. Nguyen, **Aravinth K. Ravi**. A Spectral Model-Informed Neural Network for Inverse Source Problems, 2026.
2. D.L. Nguyen, N. Nguyen, **Aravinth K. Ravi**. A Model-Informed Deep Learning Algorithm for Phaseless Inverse Scattering Problems, 2026.

Accepted

1. A. Ghanaatian, **A. K. Ravi**, J. Stallbaumer, H. V. S. Lam, A. Rudenko, L. Greenman, N. Albin, D. Caragea, and D. Rolles. Neural Network Based Molecular Structure Retrieval from Coulomb Explosion Imaging Data. *Journal of Chemical Physics*, 2026.

INDUSTRY EXPERIENCE

Machine Learning Intern, Institute for Infocomm Research, A*Star, Singapore

Fall 2021

- Worked on predictive maintenance for cranes to determine the Remaining Useful Life (RUL) of components using multi-variate regression on sensor data to forecast failures before they occur. Gained exposure to IoT communication protocols (like MQTT) used in real-time industrial sensor systems.

TALKS

Invited

11 th Annual Meeting, SIAM Central States Section, Jackson State University	Fall 2026
The 12 th International Conference Inverse Problems: Modeling and Simulation Conference, Malta	Summer 2026
10 th Annual Meeting, SIAM Central States Section, University of Arkansas	Fall 2025
9 th Annual Meeting, SIAM Central States Section, University of Missouri-Kansas City	Fall 2024

Contributed

15 th Ohio River Analysis Meeting, University of Kentucky	Spring 2026
International Mathematics and Statistics Student Research Symposium (Virtual)	Spring 2025
American Mathematical Society (AMS) Central Sectional Meeting, University of Kansas	Spring 2025

Poster Presentations

Research and the State, Kansas State University	Fall 2025
K-State AI Symposium, Kansas State University	Fall 2025

SUMMER SCHOOLS & COURSES

Bluedot Technical AI Safety Course, Virtual	Fall 2026
Bluedot AGI Strategy Course, Virtual	Summer 2026
Applied Harmonic Analysis and Machine Learning, Machine Learning Genoa Center (MaLGa), Genoa, Italy	Fall 2024
Machine Learning Crash Course, Machine Learning Genoa Center (MaLGa), Genoa, Italy	Summer 2024
OIST-Oxford-SLMath Summer Graduate School on Analysis and PDEs, Okinawa, Japan	Summer 2024

SERVICE

Undergraduate Research Mentor

Undergraduate research mentor - Connor Green	Spring 2026
Topic: <i>Inverse problems in control theory</i>	

Directed Reading Program

Directed Reading Program - JJ Heos	Spring 2026
Topic: <i>An Introduction to inverse scattering theory</i>	
Directed Reading Program - Connor Green	Fall 2025
Topic: <i>Introduction to Trajectory Optimization</i>	

Departmental Service

Sonia Kovalevsky Day - Math Workshops for Middle School Students	Spring 2026
Prospective Student Visiting Weekend	Spring 2025
Officer, Association for Women in Mathematics	Academic Year 25/26

University Service

International Buddies Coordinator	Current
International Buddies Co-event Officer	Fall 2025-Spring 2026

TEACHING

Differential Equations (Recitation instructor)	Spring 26
Applied Matrix Theory (Lecturer)	Summer 25
Applied Matrix Theory (Coordinator in Charge)	Summer 23, Summer 26
Applied Matrix Theory (Instructor)	Fall 23, Spring 24, Fall 26
Calculus I (Grader)	Summer 24
Calculus I (Recitation instructor)	Fall 22, Spring 23, Fall 24
Spring Mathematical Modelling Seminar	Fall 2022

SKILLS

Programming languages: Python, Matlab

Agentic tooling: Claude Code

Competitive Programming: Codeforces - Rank: Specialist

Libraries/Frameworks: PyTorch, scikit-learn, pandas, NumPy, TensorFlow, SciPy

Cloud & DevOps: Git

REFEREE

Dinh-Liem Nguyen: dlnguyen@ksu.edu (Advisor)

Nathan Albin: albin@ksu.edu (Collaborator)