Chudi Zhong

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RESEARCH INTERESTS

My research focuses on developing **interpretable machine learning** algorithms and pipelines to facilitate human-model interaction for high-stakes decision-making problems. I have solved fundamental problems in interpretable machine learning, allowing very simple models to achieve performance comparable with that of black boxes in a very fast and scalable way. I have introduced **a new paradigm for machine learning,** called **learning Rashomon sets**, to break the interaction bottleneck between users and ML algorithms by finding and storing *all* models within ε of the optimal loss. I have published multiple papers in NeurIPS, ICML, AAAI, AISTATS, IEEE VIS, and Statistics Surveys.

ACADEMIC POSITION

University of North Carolina at Chapel Hill — Chapel Hill, NC
Assistant Professor — July 2024 –
School of Data Science and Society
Department of Statistics and Operations Research

EDUCATION

Duke University — Durham, NC
Ph.D. in Computer Science — 2020 – 2024
Thesis: Interpretability and Multiplicity: a Path to Trustworthy Machine learning

M.S. in Statistical Science — 2018 – 2020

University of North Carolina at Chapel Hill — Chapel Hill, NC
B.S. in Statistics and Information Science — 2014 – 2018

SELECTED AWARDS

Second Place, Bell Labs Prize, 2023
The Bell Labs Prize is an international competition to solicit game changing and impactful ideas that have the potential to change the way people live, work, and communicate with each other. Among 107 proposals received in 2023, our team won the second place in the Bell Labs Prize.
Rising Stars in Data Science, University of Chicago, 2023
Outstanding Ph.D. Preliminary Research Award, Duke Computer Science, 2023
Finalist, Data Mining Best Student Paper Award, INFORMS, 2022

PUBLICATIONS

(* indicates co-first authors, equal contribution)

[1] **Chudi Zhong**, Panyu Chen, Cynthia Rudin. Models That Are Interpretable but Not Transparent. In *International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2025.

[2] Cynthia Rudin, **Chudi Zhong**, Lesia Semenova, Margo Seltzer, Ronald Parr, Jiachang Liu, Srikar Katta, Jon Donnelly, Harry Chen, Zachery Boner. The Amazing Things that Come From Having Many Good Models. In *International Conference on Machine Learning (ICML)*, 2024. (**Spotlight**)

[3] **Chudi Zhong***, Zhi Chen*, Jiachang Liu, Margo Seltzer, Cynthia Rudin. Exploring and Interacting with the Set of Good Sparse Generalized Additive Models. In *Advances in Neural Information Processing Systems (NeurIPS)*, 2023.

[4] Jiachang Liu, Sam Rosen, **Chudi Zhong**, Cynthia Rudin. OKRidge: Scalable Optimal k-Sparse Ridge Regression for Learning Dynamical Systems. In *Advances in Neural Information Processing Systems (NeurIPS)*, 2023. (**Spotlight**)

[5] Rui Xin*, **Chudi Zhong***, Zhi Chen*, Takuya Takagi, Margo Seltzer, Cynthia Rudin. Exploring the Whole Rashomon Set of Sparse Decision Trees. In *Advances in Neural Information Processing Systems (NeurIPS)*, 2022. (**Oral**)
  - **Finalist, Data Mining Best Student Paper Award, INFORMS, 2022**

[6] Jiachang Liu*, **Chudi Zhong***, Boxuan Li, Margo Seltzer, Cynthia Rudin. FasterRisk: Fast and Accurate Interpretable Risk Scores. In *Advances in Neural Information Processing Systems (NeurIPS)*, 2022.

[7] Zijie Wang, **Chudi Zhong**, Rui Xin, Takuya Takagi, Zhi Chen, Duen Horng Chau, Cynthia Rudin, Margo Seltzer. TimberTrek: Exploring and Curating Trustworthy Decision Trees with Interactive Visualization. In *IEEE Visualization and Visual Analytics (VIS)*, 2022.

[8] Jiachang Liu, **Chudi Zhong**, Margo Seltzer, Cynthia Rudin. Fast Sparse Classification for Generalized Linear and Additive Models. In *International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2022.

[9] Hayden McTavish*, **Chudi Zhong***, Reto Achermann, Ilias Karimalis, Jacques Chen, Cynthia Rudin, Margo Seltzer. Fast Sparse Decision Tree Optimization via Reference Ensembles. In *AAAI Conference on Artificial Intelligence (AAAI)*, 2022.

[10] Cynthia Rudin, Chaofan Chen, Zhi Chen, Haiyang Huang, Lesia Semenova, **Chudi Zhong**. Interpretable Machine Learning: Fundamental Principals and 10 Grand Challenges. *Statistics Surveys*, 2022.

[11] Jimmy Lin*, **Chudi Zhong***, Diane Hu, Cynthia Rudin, Margo Seltzer. Generalized and Scalable Optimal Sparse Decision Trees. In *International Conference on Machine Learning (ICML)*, 2020.

GRANT   UNC School of Data Science and Society Research Clusters Seed Grant: Uncovering Gene Pathways through Multimodal Hypergraph Contrastive Learning. Awarded. Total amount: $15,000. Core faculty: Di Wu, Can Chen, Weitong Zhang, **Chudi Zhong**, Qingyun Liu

TEACHING

STOR 565: Machine Learning	Fall 2025
DATA 110: Introduction to Data Science	Spring 2025
STOR 520: Statistical Computing for Data Science	Fall 2024

MENTORING

Cheng Zhang, UNC PhD student, 2025-
Lewis Dubrowski, UNC PhD student, 2024-
Tommy Smith, UNC undergraduate, 2024-
Prithika Roy, UNC undergraduate, 2024-
Xin Zheng, Duke MS student, 2024-
Shihan Feng, Duke MS student, 2024-
Tony Cao, Duke undergraduate, 2024-
Yuexin Zhang, UNC MS student, 2024-2025 (now PhD student at Pittsburgh)
Ethan Hsu, Duke undergraduate, 2024-2025 (now working in industry)
Panyu Chen, Duke MS student, 2024-2025
Rui Xin, Duke undergraduate, 2021-2023 (now PhD student at University of Washington)
Boxuan Li, Duke undergraduate, 2022-2023 (now PhD student at Columbia University)
Diane Hu, Duke undergraduate, 2019-2020 (now working in industry)

INVITED TALKS		
	INFORMS Annual Meeting	2025
	Data Science Day Short Talk, UNC-Chapel Hill	2025
	Computational Medicine Series, UNC-Chapel Hill	2025
	FRG Series, UNC-Chapel Hill	2024
	School of Business, Purdue University	2024
	School of Information Sciences Colloquium, UIUC	2024
	ASSET Seminar, University of Pennsylvania	2024
	Statistics and Operations Research Colloquium, UNC-Chapel Hill	2024
	Computer Science and Philosophy AI Workshop, UNC-Chapel Hill	2023
	Rising Stars in Data Science, University of Chicago	2023
	Tippie College of Business, University of Iowa	2023
	INFORMS Annual Meeting	2023
	Cornell ORIE Young Researcher Workshop (poster)	2023
	Publisher-centric Science Talks, Amazon	2023
	Interpretability in AI Workshop, Banff International Research Station	2022
	INFORMS Annual Meeting	2021

SERVICE

Tutorial Organizer: "From Underspecification to Alignment: Breaking the One-Model Mindset for Reliable AI", AAAI 2026

Panelist: Harnessing AI for Material Symposium, Duke University, 2024

Organizer: "Making Models We Can Understand: An Interactive Introduction to Interpretable Machine Learning", International Conference on Computational Social Science (IC2S2), 2024

Chair: "Advancing Interpretable Machine Learning: Novel Approaches and Applications", INFORMS Annual Meeting, 2023

Conference Area Chair: InterpretableAI Workshop, NeurIPS 2024

Conference Reviewer: AISTATS (2021, 2022, 2023), ICML (2022, 2025), COLT (2023), NeurIPS (2023, 2024), AAAI (2025)

Journal Reviewer: Annals of Applied Statistics, Journal of the Royal Statistical Society Series B, Operations Research, Journal of Computational and Graphical Statistics, Journal of Machine Learning Research

SERVICE TO UNC

SDSS undergraduate advising, 2024-2026

STOR Ethical AI Faculty Search Committee, 2025

Develop a new advanced undergraduate level course, Foundations in AI, for SDSS.

Develop AI concentration and data engineer track for SDSS.