

Jinjin Zhao

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INTERESTS	Systems for Machine Learning, Data Provenance, DevOps, Databases	
EDUCATION	University of Chicago	2025 (est.)
	Computer Science, PhD, Advisor: Sanjay Krishnan	
	University of Chicago	August 2022
	Computer Science, Masters	
	Princeton University, <i>Summa Cum Laude</i>	June 2019
	Computer Science, Bachelor of Science in Engineering	
	Statistics and Machine Learning, Minor	
SELECTED PROJECTS	Behavior Based Semantic Capture for Data Tables. Annotating Python and Jupyter Notebook execution to automatically store code changes when the program is ran. Organizing experiments with University of Chicago undergraduate classes to capture a history of work for data science assignments with this annotation. Using those experiments to predict/recommend future behavior, and analyze table column semantics.	
	Fine Grained Provenance Storage and Query for Arrays. Presenting a query and storage framework for fine-grained provenance in data science. Fine-grained provenance is defined as cell-to-cell contribution lineage through a set of array operations. Introducing a new compression algorithm and query optimization techniques that improve storage space and query time by up to 700x and 200x respectively.	
	Object Recognition Error Classification in Complex Environments. Running object detection deep learning models in real world video deployment scenarios. Classifying error detected with expert hand labels, and testing preliminary low-dimensional unsupervised error classification techniques.	
	High Level Domain-Agnostic Code Analysis in Python. Designing a high-level API to parse Python code and store metadata during code analysis and execution, independent of task and type of metadata.	
WORK EXPERIENCE	Research Intern	Princeton Plasma Physics Lab
	June 2018 - July 2018	Princeton, NJ
	Software Engineering Intern	Facebook
	June 2017 - August 2017	Seattle, WA

Facebook University Intern
June 2016 - August 2016

Facebook
Menlo Park, CA

TEACHING
EXPERIENCE

CDAC Lab Coordinator
May 2020 - August 2020
Coordinated data science research summer program.
Led machine learning team (12 students).

University of Chicago
Chicago, IL

Teaching Assistant
University of Chicago
Honors Introduction to Programming, I.
Data Science For Computer Scientists

CMSC 16100, 21800
Autumn 2019, 2020

Teaching Assistant
Princeton University
Mobile Computing Design for Assistive Technology.

COS 397/497
Fall 2018

PUBLICATIONS/
PRESENTATIONS

J. Zhao, S. Krishnan. *System for Fine-Grained Provenance (temp. title)*, 2023. [under submission].

S. Liu, T. Mangla, T. Shaowang, **J. Zhao**, S. Krishnan, & N. Feamster. *Interaction Recognition in IoT Environments with Multimodal Machine Learning (temp. title)*, 2023. [under submission].

S. Xia, Z. Zhu, C. Zhu, **J. Zhao**, K. Chard, A. Elmore, I. A. Foster, M. Franklin, S. Krishnan, & R. Fernandez *Data Station: Delegated, Trustworthy, and Auditable Computation to Enable Data-Sharing Consortia with a Data Escrow*. VLDB 2022. [Paper].

T. Shaowang*, **J. Zhao***, S. Sintos, & S. Krishnan. *Towards Causal Query Answering for Debugging Video Analytics Systems*. HILDA 2022. [Short Paper].

E. Zeger, F. Laggner, A. Bortolon, C. Rea, O. Meneghini, S. Saarelma, B. Sammuli, S. Smith, & **J. Zhao**. *Prediction of DIII-D Pedestal Structure From Externally Controllable Parameters*. IEEE Trans. Plasma Sci. 2021. [Paper].

J. Zhao, E. Kolemen, X. Li, & F. Laggner. *Experimental Based Pedestal Prediction using Machine Learning*. American Physical Society (APS) Division of Plasma Physics 2018. [Poster].

ACTIVITIES/
AWARDS

2022 University Unrestricted Fellowship, University of Chicago
OSDI '20 Diversity Grant, USENIX Association
Curriculum/Social Minister, UChicago CS Graduate Student Ministry
2019 Neubauer Graduate Scholarship, University of Chicago
ChatterWorks, 2016 YHacks 1&1 Prize Winner