

# Daniel Gonzalez Cedre

cedre.dev · cedre@illinois.edu

## Experience

### Teaching Assistant Professor

SIEBEL SCHOOL OF COMPUTING AND DATA SCIENCE

University of Illinois Urbana-Champaign

AUG. 2025 — PRESENT

## Education

### Doctor of Philosophy · Computer Science

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

University of Notre Dame

JUN. 2019 — JUL. 2025

### Master of Science · Computer Science

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

University of Notre Dame

JUN. 2019 — APR. 2023

### Master of Science · Financial Mathematics

DEPARTMENT OF MATHEMATICS

Florida State University

AUG. 2016 — MAY 2019

### Bachelors of Science · Mathematics · Computer Science · *cum laude*

DEPARTMENT OF MATHEMATICS AND STATISTICS · SCHOOL OF COMPUTING AND INFORMATION SCIENCES

Florida Int'l University

AUG. 2012 — MAY 2016

### Associate of Arts · Mathematics · *magna cum laude*

SCHOOL FOR ADVANCED STUDIES, WOLFSON CAMPUS

Miami-Dade College

JUN. 2010 — APR. 2012

## Awards & Honors

2024	Outstanding Instructor Honorable Mention	Graduate Student Government	University of Notre Dame
2024	Outstanding Graduate Student Teaching Award	Kaneb Center for Teaching & the Graduate School	University of Notre Dame
2024	Kaneb Outstanding Instructor of Record	Department of Computer Science and Engineering	University of Notre Dame
2024	CSE Outstanding TA Award	Department of Computer Science and Engineering	University of Notre Dame
2019	Deans' Graduate Fellowship	The Graduate School	University of Notre Dame
2017	Dean's Scholarship	The Graduate School	Florida State University
2016	GEM University Fellow	National GEM Consortium	University of Chicago
2016	Outstanding Achievement in Mathematics	College of Arts, Sciences, and Education	Florida Int'l University
2015	Second place award "Monotone Catenary Degree [...]"	McNair Scholars Research Conference	Florida Int'l University
2014	Third place award "Pancake Simulator"	HackFSU Hack-a-thon	Florida State University
2015	McNair Scholar, 12 <sup>th</sup> cohort	McNair Scholars Program	Florida Int'l University
2012	Florida Bright Futures Scholarship	Office of Student Scholarship and Grants	State of Florida
2012	National Hispanic Scholarship	Office of Admissions	Florida Int'l University

## Publications & Preprints

- 2024 This Probably Looks *Exactly* Like That: An Invertible Prototypical Neural Network · ECCV  
Daniel Gonzalez Cedre\* · Zachariah Carmichael\* · Timothy Redgrave\* · Walter Scheirer
- 2023 Dynamic Vertex Replacement Grammars · ARXIV  
Daniel Gonzalez Cedre · Justus Isaiah Hibshman · Timothy La Fond · Grant Boquet · Tim Weninger
- 2023 Motif Mining: Finding and Summarizing Remixed Image Content · WACV  
William Theisen · Daniel Gonzalez Cedre · Zachariah Carmichael · Daniel Moreira · Tim Weninger · Walter Scheirer
- 2022 The Infinity Mirror Test for Graph Models · TKDE  
Satyaki Sikdar · Daniel Gonzalez Cedre · Trenton W. Ford · Tim Weninger
- 2021 Temporal Egonet Subgraph Transitions · ARXIV  
Daniel Gonzalez Cedre · Sophia Abraham · Lucas Parzianello · Eric Tsai
- 2021 Joint Subgraph-to-Subgraph Transitions · WSDM  
Justus Isaiah Hibshman · Daniel Gonzalez Cedre\* · Satyaki Sikdar\* · Tim Weninger
- 2015 Monotone Catenary Degree in Numerical Monoids · ARXIV  
Daniel Gonzalez Cedre · Cameron Wright · Jenna Zomback

\*EQUAL CONTRIBUTION

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# Talks & Lectures

2025	Rules and Distributions for Explainable Machine Learning	PhD thesis defense	University of Notre Dame
2024	This Probably Looks <i>Exactly</i> Like That	Poster presentation	European Conference on Computer Vision
2024	Undergraduate Engineering Discernment Lecture	Invited guest lecture	University of Notre Dame
2023	Explaining Anomalies in Graphs with Grammars	Internship talk	Deloitte Touche Tohmatsu
2023	A Transformational Approach to Graph Learning	PhD oral candidacy	University of Notre Dame
2023	Undergraduate Engineering Discernment Lecture	Invited guest lecture	University of Notre Dame
2022	Undergraduate Engineering Discernment Lecture	Invited guest lecture	University of Notre Dame
2021	Mining Temporal Hypergraphs with Graph Grammars	Invited guest lecture	Rose-Hulman Institute of Technology
2020	Undergraduate Engineering Discernment Lecture	Invited guest lecture	University of Notre Dame
2020	The Infinity Mirror Test for Graph Generators	Full talk	SIAM Network Science
2020	The Infinity Mirror Test for Graph Generators	Poster presentation	ND CSE 14 <sup>th</sup> Annual Poster Conference
2015	Monotone Catenary Degree in Numerical Monoids	Poster presentation	FIU McNair Scholars Research Conference

# Internships & Collaborations

<b>Data Scientist &amp; AI Graph Expert</b> AI CENTER FOR EXCELLENCE · <i>Sanmitra Bhattacharya · Salvador Aguiñaga</i> - Worked to develop a intrinsically-explainable graph neural network based on graph grammars	<b>Deloitte Touche Tohmatsu</b> MAY 2023 – AUG. 2023
<b>Intern Research Scientist</b> APPLIED STATISTICS GROUP · <i>Grant Boquet · Timothy La Fond</i> - Developed a dynamic vertex-replacement graph grammar - Worked to find optimal dendrogram decompositions for vertex-replacement graph grammars - Modeled temporal graphs with hidden Markov models and vertex-replacement graph grammars	<b>Lawrence Livermore Nat'l Laboratory</b> MULTIPLE INTERNSHIPS MAY 2022 – AUG. 2022 JUN. 2021 – AUG. 2021 NOV. 2020 – FEB. 2021
<b>Contactless Fingerprint Collection</b> COMPUTER VISION RESEARCH LAB · <i>Adam Czajka</i> - Collaborated with Aidan Draper; sponsored by West Virginia University	<b>University of Notre Dame</b> JUN. 2019 – JAN. 2020
<b>PURE Math Research Program</b> DEPARTMENT OF MATHEMATICS · <i>Roberto Pelayo · Brian Wissman</i> - Studied properties of numerical monoids and catenary degree with Cameron J. Wright and Jenna Zomback	<b>University of Hawaii at Hilo</b> JUN. 2015 – JUL. 2015

# Mentorship & Advising

2025	Warrior Scholars Program	Project Mentor & Advisor for 6 Students	University of Notre Dame
2023	CSE Summer Enrichment Program	Coach & Instructor for 20 Students	University of Notre Dame

# Teaching

<b>Discrete Structures</b> INSTRUCTOR OF RECORD · CS 173 · 150 STUDENTS	<b>University of Illinois Urbana-Champaign</b> SPRING SEMESTER 2026
<b>Modeling and Learning in Data Science</b> INSTRUCTOR OF RECORD · CS 307 · 200 STUDENTS	<b>University of Illinois Urbana-Champaign</b> SPRING SEMESTER 2026
<b>Discrete Structures</b> INSTRUCTOR OF RECORD · CS 173 · 570 STUDENTS	<b>University of Illinois Urbana-Champaign</b> FALL SEMESTER 2025
<b>Warrior Scholars Program</b> INSTRUCTOR AND MENTOR · SUMMER OUTREACH PROGRAM · 6 STUDENTS	<b>University of Notre Dame</b> SUMMER SEMESTER 2025
<b>Principles of Computing</b> INSTRUCTOR OF RECORD · CSE 1000I · 36 STUDENTS	<b>University of Notre Dame</b> FALL SEMESTER 2024
<b>Discrete Mathematics</b> INSTRUCTOR OF RECORD · CSE 20110 · 31 STUDENTS	<b>University of Notre Dame</b> SPRING SEMESTER 2024
<b>Discrete Mathematics</b> INSTRUCTOR OF RECORD · CSE 20110 · 180 STUDENTS	<b>University of Notre Dame</b> FALL SEMESTER 2023

***CSE Summer Enrichment Program***

INSTRUCTOR AND COACH · SUMMER LECTURE SERIES · 20 STUDENTS

***Discrete Mathematics***

INSTRUCTOR OF RECORD · CSE 20110 · 21 STUDENTS

***Graph Theory***

CO-ORGANIZER · DIRECTED READING · 1 STUDENT

***Discrete Mathematics***

INSTRUCTOR OF RECORD · CSE 20110 · 25 STUDENTS

***Discrete Math I***

RECITATION INSTRUCTOR · MAD 2104 · 60 STUDENTS

***Precalculus Algebra***

INSTRUCTOR OF RECORD · MAC 1104 · 35 STUDENTS

***University of Notre Dame***

SUMMER SEMESTER 2023

***University of Notre Dame***

SPRING SEMESTER 2023

***University of Notre Dame***

FALL SEMESTER 2022

***University of Notre Dame***

SPRING SEMESTER 2022

***Florida State University***

SPRING SEMESTER 2019

***Florida State University***

FALL SEMESTER 2018

# Service

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Committee	University of Illinois Urbana-Champaign · Academic Appeals Committee
Volunteering	University of Notre Dame · Graduate Student Recruitment Representative
Peer Review	Springer DMKD · Data Mining and Knowledge Discovery
Peer Review	Springer JoCO · Journal of Combinatorial Optimization
Peer Review	ACM WSDM · Web Search and Data Mining
Peer Review	IEEE TKDE · Transactions on Knowledge Data and Engineering
Peer Review	IEEE ICAS · International Conference on Autonomous Systems