Daniel **Gonzalez Cedre**

MATHEMATICIAN · COMPUTER SCIENTIST

✉ dgonza26@nd.edu | 🏠 daniel-gonzalez-cedre.github.io | G Daniel Gonzalez Cedre | ⓘ 0000-0002-2676-1452 | ⬛ daniel-gonzalez-cedre

Education

University of Notre Dame
PH.D. IN COMPUTER SCIENCE

Jun 2019 — Present
Notre Dame, IN, USA

- Working on temporal graph mining and rule-based graph transformations with interests in applied category theory
- Recipient of the Dean's Graduate Fellowship
- Graduate Student Recruitment Representative
- Advised by Tim Weninger

Florida State University
M.SC. IN MATHEMATICS

Aug 2017 — May 2019
Tallahassee, FL, USA

- Concentration in Financial Mathematics
- Recipient of the Dean's Graduate Scholarship

Florida International University
B.SC. IN MATHEMATICS · *cum laude*
B.SC. IN COMPUTER SCIENCE · *cum laude*

Aug 2012 — May 2016
Miami, FL, USA

- McNair Scholar, 12th cohort
- Recipient of the National Hispanic Scholarship
- Recipient of the Florida Bright Futures Academic Scholarship

Miami-Dade College
A.A. IN MATHEMATICS · *magna cum laude*

Jun 2010 — Apr 2012
Miami, FL, USA

- Dual Enrollment through the School for Advanced Studies at Wolfson
- AP Scholar with Distinction
- National Hispanic Scholar

Internships & Projects

Intern Research Scientist
LAWRENCE LIVERMORE NATIONAL LAB

May 2022 — Aug 2022
Livermore, CA, USA

- Advised by Grant Boquet and Timothy La Fond
- Developed a dynamic vertex-replacement graph grammar based on CNRG

Intern Research Scientist
LAWRENCE LIVERMORE NATIONAL LAB

Jun 2021 — Aug 2021
Livermore, CA, USA

- Advised by Grant Boquet and Timothy La Fond
- Worked to find optimal dendrogram decompositions for vertex-replacement graph grammars

Intern Research Scientist
LAWRENCE LIVERMORE NATIONAL LAB

Nov 2020 — Feb 2021
Livermore, CA, USA

- Advised by Grant Boquet and Timothy La Fond
- Modeled temporal graphs with hidden Markov models
- Modified a vertex-replacement graph grammar to incorporate hidden Markov states
- Evaluated the quality of generated temporal graphs using standard graph comparison metrics

Contactless Fingerprint Collection
COMPUTER VISION RESEARCH LAB @ NOTRE DAME

Jun 2019 — Jan 2020
Notre Dame, IN, USA

- Advised by Adam Czajka in collaboration with Aidan Draper
- Sponsored by West Virginia University

PURE Math Research Program
UNIVERSITY OF HAWAII AT HILO

Jun 2015 — Jul 2015
Hilo, HI, USA

- Advised by Roberto Pelayo and Brian Wissman
- Investigating the properties of monotone catenary degree in numerical monoids

Publications & Preprints

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   **Joint Subgraph-to-Subgraph Transitions** · WSDM
Justus Hibshman · Daniel Gonzalez Cedre · Satyaki Sikdar · Tim Weninger

2015   **Monotone Catenary Degree in Numerical Monoids** · arXiv
Daniel Gonzalez Cedre · Cameron Wright · Jenna Zomback

Talks & Lectures

2021   **Mining Temporal Hypergraphs with Graph Grammars** · Invited guest lecture · Rose-Hulman Institute of Technology

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 14th Annual Poster Conference

2015   **Monotone Catenary Degree in Numerical Monoids** · Poster presentation · FIU McNair Scholars Research Conference

Teaching Experience

Instructor of Record
DISCRETE MATH

- TBD

University of Notre Dame
Spring 2023

Graduate Student Lecturer
GRAPH THEORY DIRECTED READING

- Created weekly assignments for an undergraduate student on various topics in Graph Theory
- Co-organized with Justus Hibshman

University of Notre Dame
Fall 2022

Instructor of Record
DISCRETE MATH

- Designed every aspect of the course
- Planned and delivered lectures three times per week
- Held optional, weekly, 3.5-hour-long recitation sections for the students, which were always well-attended
- Created and graded weekly problem sets, two midterm exams, and a final exam
- Held 3 office hours per week in addition to the recitation sections
- Performed all duties without the help of a TA for a class of 26 students

University of Notre Dame
Spring 2022

Graduate Student Lecturer
CSE DISCERNMENT LECTURES

- Delivered a series of three virtual lectures to prospective engineering freshmen
- Designed a computer vision-based learning activity for the students
- Guided students through group activities, showing them a variety of interesting topics in computer science

University of Notre Dame
Fall 2020

Recitation Instructor
DISCRETE MATH

- Delivered weekly recitation lectures to two sections of students
- Held office hours, proctored weekly quizzes, and graded assignments

Florida State University
Spring 2019

Instructor of Record
PRECALCULUS ALGEBRA

- Planned and delivered lectures three times per week
- Held office hours and proctored quizzes and exams

Florida State University
Fall 2018

Graduate Teaching Assistant
DISCRETE MATH · DATA STRUCTURES

- Graded assignments and held office hours

University of Notre Dame
Fall 2019 — Spring 2020

Graduate Teaching Assistant   *Florida State University*

Business Calculus · Precalculus Algebra · Trigonometry · Finite Math · Liberal Arts Math   *Fall 2017 — Fall 2018*

- Proctored quizzes and exams

Undergraduate Learning Assistant   *Florida International University*

Graph Theory · Intro to Advanced Math · Calculus 2 · Calculus 1 · Discrete Math · Finite Math · College Algebra   *Spring 2013 — Summer 2017*

- Held recitation sections and office hours
- Assisted professors with in-class duties
- Graded assignments