

David Parra

📍 Madison, Wisconsin ✉️ deparra@wisc.edu ☎️ +01-520-904-8242 🔗 dparra2399.github.io in David Parra

Education

- PhD** **University of Wisconsin-Madison**, Computer Science 2022 - 2028 (Expected)
- Research Area: Computational Imaging and Computer Vision
- BS** **University of Arizona**, Computer Science and Mathematics 2017 - 2022
- Honors: magna cum laude

Research Experience

- Graduate Research Assistant** Aug 2023 - Present
Computational Optics Group, UW-Madison PI: Andreas Velten
- Developing new imaging methods that combine new sensor designs (SPAD cameras) with computational algorithms.
- Graduate Research Assistant** Aug 2022 - May 2023
WISIONLab, UW-Madison PI: Mohit Gupta
- Optimized the computational efficiency of denoising algorithms for single-photon 3D imaging.
- Undergraduate Research Assistant** May 2021 - Dec 2021
Department of Biomedical Engineering, University of Arizona PI: Ali Bilgin
- Developed and trained vision transformer models for the super-resolution of X-ray scans.

Publications

- Hardware-aware Coding Function Design for Compressive Single-photon 3D Cameras* 2025
David Parra, Felipe Gutierrez-Barragan, Trevor Seets, Andreas Velten
IEEE Transactions on Pattern Analysis and Machine Intelligence (ICCP)
- Sinogram Transformers: Accelerating Radial MRI using Vision Transformers* 2022
David Parra, Phillips Martin, Ali Bilgin
Annual Meeting of the International Society for Magnetic Resonance in Medicine

Posters and Presentations

- Hardware-aware Coding Function Design for Compressive Single-photon 3D Cameras*
ICCP (Oral) July 2025
CVPR CCD (Poster) June 2025
- Lexical and Discourse Associated with Disfluency in Bilingual Parent-Child Interactions*
ASHA (Poster) Nov 2023

Teaching Experience

- Graduate Teaching Assistant** Aug 2023 - Present
Department of Computer Science, UW-Madison
- **Courses:** Introduction to Data Science
 - Aiding in students' learning by directing labs, conducting office hours, answering student questions, and writing exam questions.

Undergraduate Teaching Assistant

Jan 2021 - Dec 2021

Department of Computer Science, University of Arizona

- **Courses:** Algorithms, Computer Architecture
- Conducted office hours to answer student inquiries and graded weekly assignments.

Supplemental Instructional Leader

Aug 2019 - Dec 2020

Department of Mathematics, University of Arizona

- **Courses:** College Algebra
- Facilitated review sessions to help students develop their course understanding and improve their studying skills.

Awards and Activities

University of Wisconsin-Madison

College of Letters Science Community of Graduate Research Scholars

Aug 2022 - Present

LEAP Alliance Fellow

Aug 2022 - Present

Advanced Opportunity Fellowship

Aug 2022 - Aug 2023

University of Arizona

REU Research Training Group in Data-Driven Discovery

May 2021 - Aug 2021

Boy Scouts of America, Eagle Scout

April 2011 - April 2017

Technologies

Languages: Python, MATLAB, C, Java, HTML, CSS, PHP, JavaScript**Packages and Frameworks:** Numpy, Scipy, CVXPY, Pytorch