

David Mis

PhD Candidate

Department of Computational Applied Mathematics and Operations Research

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Education

Rice University PhD, <i>Computational and Applied Mathematics</i> Houston, TX, USA Advised by Dr. Maarten de Hoop	2021–present
University of Texas MS, <i>Computer Science</i> Austin, TX, USA	2019–2021
University of Texas BS, <i>Computer Science</i> BS, <i>Mathematics</i> BA, <i>Economics and Chinese Language</i> Austin, TX, USA	2009–2014

Publications

Conference papers

Semialgebraic Neural Networks: From roots to representations SD Mis, M Lallas, MV de Hoop <i>International Conference on Learned Representations (ICLR) 2025</i> Singapore	May 2025
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Journal papers

Reduced mRNA secondary-structure stability near the start codon indicates functional genes in prokaryotes TE Keller, SD Mis, KE Jia, CO Wilke <i>Genome Biology and Evolution</i> , Volume 4, Issue 2, Pages 80–88	2012
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Talks

Measure flows in Bayes Hilbert spaces: Diffeomorphism invariance, optimal control, and flocking SD Mis, MV de Hoop <i>Geo-Mathematical Imaging Group Partners Meeting, Rice University</i>	Sep 2025
Diffeomorphism invariant measure flows in Bayes Hilbert spaces SD Mis, MV de Hoop <i>Applied Inverse Problems (AIP) 2025, Rio de Janeiro, Brazil</i>	Jul 2025

Semialgebraic Neural Networks: From roots to representations SD Mis, M Lassas, MV de Hoop <i>Inverse Days, Oulu, Finland</i>	Dec 2024
Semialgebraic Neural Networks <i>Geo-Mathematical Imaging Group Partners Meeting, Rice University</i>	Nov 2024
Matrix-Recurrent and Semialgebraic Neural Networks <i>Geo-Mathematical Imaging Group Partners Meeting, Rice University</i>	May 2023

Professional Experience

Teaching

Rice University <i>Grader / Teaching Assistant</i> Houston, TX Grader: Differential Equations for Science and Engineering, Partial Differential Equations I, Applied Functional Analysis, Numerical Analysis Graduate Teaching Assistant: Matrix Analysis	2021–present
The Art of Problem Solving <i>Grader / Teaching Assistant</i> Virtual Various high school mathematics courses	2020–2021
University of Texas <i>Undergraduate Teaching Assistant</i> Austin, TX Courses: Computational Biology, Statistics for Biologists	2011–2012

Research

Rice University <i>PhD Research Assistant</i> Houston, TX Geo-Mathematical Imaging Group (GMIG)	2022–present
University of Texas <i>Undergraduate Research Assistant</i> Austin, TX Lab of Dr. Clause O. Wilke, Professor of Integrative Biology	2010–2012

Software Development

David Mis Software LLC <i>Software Developer</i> Houston, TX Independent software consultant	2018–2021
Unaliwear <i>Cloud Engineer</i> Austin, TX Principal architect of AWS infrastructure for consumer IOT device	2015–2018

Hewlett Packard

2014–2015

Software Developer

Austin, TX

Enterprise software development

Mentorship

Rice Data2Knowledge Capstone Project Mentor

Spring 2025

Rice University

NASA Orbital Transfer Project