

# David Mis

PhD Candidate

Department of Computational Applied Mathematics and Operations Research

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## Education

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

## Publications

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### Conference papers

<b>Semialgebraic Neural Networks: From roots to representations</b> <a href="#">SD Mis</a> , M Lassas, MV de Hoop <i>International Conference on Learning Representations (ICLR) 2025</i> Singapore	May 2025
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### Journal papers

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

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<b>Measure flows in Bayes Hilbert spaces</b> <i>Inverse Days, Helsinki, Finland</i>	Dec 2025
<b>(Poster) Measure flows in Bayes Hilbert spaces: Particle methods and sampling</b> <i>CBMS Conference, University of Houston</i>	Dec 2025

<b>Measure flows in Bayes Hilbert spaces: Diffeomorphism invariance, optimal control, and flocking</b> <i>Geo-Mathematical Imaging Group Partners Meeting, Rice University</i>	Sep 2025
<b>Diffeomorphism invariant measure flows in Bayes Hilbert spaces</b> <i>Applied Inverse Problems (AIP) 2025, Rio de Janeiro, Brazil</i>	Jul 2025
<b>Semialgebraic Neural Networks: From roots to representations</b> <i>Inverse Days, Oulu, Finland</i>	Dec 2024
<b>Semialgebraic Neural Networks</b> <i>Geo-Mathematical Imaging Group Partners Meeting, Rice University</i>	Nov 2024
<b>Matrix-Recurrent and Semialgebraic Neural Networks</b> <i>Geo-Mathematical Imaging Group Partners Meeting, Rice University</i>	May 2023

## Professional Experience

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### Teaching

<b>Rice University</b> <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
<b>The Art of Problem Solving</b> <i>Grader / Teaching Assistant</i> Virtual Various high school mathematics courses	2020–2021
<b>University of Texas</b> <i>Undergraduate Teaching Assistant</i> Austin, TX Courses: Computational Biology, Statistics for Biologists	2011–2012

### Research

<b>Rice University</b> <i>PhD Research Assistant</i> Houston, TX Geo-Mathematical Imaging Group (GMIG)	2022–present
<b>University of Texas</b> <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

2018–2021

*Software Developer*

Houston, TX

Independent software consultant

### Unaliwear

2015–2018

*Cloud Engineer*

Austin, TX

Principal architect of AWS infrastructure for consumer IOT device

### 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

## Professional Activities

### Minisymposium Organizer

March 2026

*Measure Flows for Inverse Problems and Machine Learning*

SIAM UQ '26

## Awards

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SIAM UQ 2026 student travel award