

# David Mis

PhD Student

## Education

### Rice University

PhD, *Computational and Applied Mathematics*

2021–present, Houston, TX, USA

Advised by Dr. Maarten de Hoop

### University of Texas

MS, *Computer Science*

2019–2021, Austin, TX, USA

### University of Texas

BS, *Computer Science*

BS, *Mathematics*

BA, *Economics and Chinese Language*

2009–2014, Austin, TX, USA

## Publications

### Conference papers

#### Semialgebraic Neural Networks: From roots to representations

SD Mis, M Lassas, MV de Hoop

*International Conference on Learned Representations (ICLR) 2025*

May 2025, Singapore

[\[pdf\]](#) [\[arxiv\]](#) [\[conference\]](#)

## Journal papers

### Reduced mRNA secondary-structure stability near the start codon indicates functional genes in prokaryotes

TE Keller, SD Mis, KE Jia, CO Wilke

*Genome Biology and Evolution*, Volume 4, Issue 2, 2012, Pages 80–88

[\[pdf\]](#) [\[link\]](#)

## Talks

### Measure flows in Bayes Hilbert spaces: Diffeomorphism invariance, optimal control, and flocking

SD Mis, MV de Hoop

*Geo-Mathematical Imaging Group Partners Meeting*

September 2025, Rice University

### Diffeomorphism invariant measure flows in Bayes Hilbert spaces

SD Mis, MV de Hoop

*Applied Inverse Problems (AIP) 2025*

July 2025, Rio de Janeiro, Brazil

### Semialgebraic Neural Networks: From roots to representations

SD Mis, M Lassas, MV de Hoop

*Inverse Days*

December 2024, Oulu, Finland

### Semialgebraic Neural Networks

*Geo-Mathematical Imaging Group Partners Meeting*

November 2024, Rice University

### Matrix-Recurrent and Semialgebraic Neural Networks

*Geo-Mathematical Imaging Group Partners Meeting*

May 2023, Rice University

## Professional Experience

### Teaching

#### Rice University

*Grader / Teaching Assistant*

2021–present, Houston, TX

Grader:

Differential Equations for Science and Engineering

Partial Differential Equations I  
Applied Functional Analysis  
Numerical Analysis  
Graduate Teaching Assistant:  
Matrix Analysis

**The Art of Problem Solving**

*Grader / Teaching Assistant*

2020–2021, Virtual

Various high school mathematics courses.

**University of Texas**

*Undergraduate Teaching Assistant*

2011–2012, Austin, TX

Courses:

Computational Biology

Statistics for Biologists

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**Research**

**Rice University**

*PhD Research Assistant*

2022–present, Houston, TX

Geo-Mathematical Imaging Group (GMIG).

**University of Texas**

*Undergraduate Research Assistant*

2010–2012, Austin, TX

Lab of Dr. Clause O. Wilke, Professor of Integrative Biology.

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**Software Development**

**David Mis Software LLC**

*Software Developer*

2018–2021, Houston, TX

Independent software consultant.

**Unaliwear**

*Cloud Engineer*

2015–2018, Austin, TX

Principal architect of AWS infrastructure for consumer IOT device.

**Hewlett Packard**

*Software Developer*

2014–2015, Austin, TX

Enterprise software development.

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**Mentorship**

**Rice Data2Knowledge Capstone Project Mentor**

NASA Orbital Transfer Project

Spring 2025