

# CHUNYANG LIAO

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## ACADEMIC TRAINING

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<b>Texas A&amp;M University</b>	<i>Sept 2018 - Present</i>
Ph.D. Mathematics (Advisor: Simon Foucart)	College Station, Texas
<b>Texas A&amp;M University</b>	<i>Sept 2016 - May 2018</i>
M.S. Computational Mathematics	College Station, Texas
<b>Dalian Maritime University</b>	<i>Sept 2012 - June 2016</i>
B.S. Applied Mathematics	Dalian, China

## RESEARCH INTERESTS

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Approximation Theory, Mathematical Data Science, Optimization, (Deep) Learning Theory

## PUBLICATIONS

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### Preprints

1. *Learning from Non-Random Data in Hilbert Spaces: An Optimal Recovery Perspective.*  
S. Foucart, **C. Liao**, S. Shahrampour, and Y. Wang, submitted.

### In Preparation

1. *Locally Optimal Recovery Maps in a Hilbert Setting under the Two-Space and Bounded-Noise Models*  
with S. Foucart.

## PROJECTS

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**TAMIDS Course Development for MATH 664** *June 2021 - Aug 2021*

I help Prof. Simon Foucart to write computational illustrations accompanying the book Mathematical Pictures at a Data Science Exhibition, which is also the textbook for MATH 664: Topics in Mathematical Data Science. The main topics of this illustrations contains Machine Learning, Optimal Recovery, Compressive Sensing, Optimization and Neural Networks. Details can be found in both **Github Page** and my **research page**.

## ORAL PRESENTATIONS

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### Seminar:

- *Learning from Non-Random Data in Hilbert Spaces: An Optimal Recovery Perspective*  
Graduate Students Seminar, Texas A&M university, College Station, 23 Sept 2020

## MISCELLANEOUS CONFERENCES & WORKSHOPS

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**Poster section:**

- *Learning from Non-Random Data in Hilbert Spaces: An Optimal Recovery Perspective*  
The third annual meeting of the SIAM TX-LA Section, Texas A&M University, College Station, October 16-18, 2020

**Attendance:**

- (Hybrid) Institute for Foundations of Data Science (IFDS) Summer School, Madison, Wisconsin, July 26-30 2021
- (Virtually) Deep Learning Theory Summer School at Princeton, July 27 - Aug 4 2021
- (Virtually) SIAM Annual Meeting, Spokane, Washington, July 19-23 2021
- (Hybrid) Gene Golub SIAM Summer school, Muizenberg, South Africa, July 19-30 2021
- (Virtually) Workshop on the Theory of Overparameterized Machine Learning (TOPML), April 20-21 2021
- (Virtually) Thirty-fourth Conference on Neural Information Processing Systems (Neurips 2020), Dec 6 - Dec 12 2020
- (Virtually) SIAM Conference on Mathematics of Data Science (MDS20), Cincinnati, Ohio, May 4 - June 30 2020
- Conference on Advances In Data Science Theory, Methods and Computation, Texas A&M University, September 2019
- Concentration Week on Randomness and Determinism in Compressive Data Acquisition, Texas A&M University, July 2019
- 3rd Texas A&M Big Data Workshop-Data Driven Discovery, Texas A&M University, April 2018

**HONORS AND AWARDS**

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- National Scholarship (top 2%), Ministry of Education of China, Cash award 2013 & 2014

**TEACHING EXPERIENCE**

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Texas A&M University (2018 - ):

- Instructor of Record, Mathematics for Business and Social Sciences (Fall 2021)
- Teaching Assistant, Engineering Mathematics II (Spring 2021, Fall 2019)
- Teaching Assistant, Numerical Analysis (Fall 2020)

**LICENCES & CERTIFICATIONS**

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- Society of Actuaries Exam Probability and Exam Financial Mathematics passed.

**ACTIVITIES**

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- Volunteer & Grader, Texas A&M University High School Mathematics Contest, 2016-2019
- Volunteer, Texas A&M University Datathon, 2019

## **PROFESSIONAL MEMBERSHIP**

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- Texas A&M TRIPODS Research Institute for Foundations of Interdisciplinary Data Science (2020-)
- Society for Industrial and Applied Mathematics (2016-)

## **ADDITIONAL INFORMATION**

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- Computer skill: Matlab, Python, R, C, C++, HTML
- Convex optimization packages: CVX (for Matlab), CVXOPT/CVXPY (Python package), GUROBI, MOSEK