THUY LINH DO

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New Orleans, LA - 70118, USA

EDUCATION

- **Tulane University** *Jul 2019 - May 2025* (expected)
Doctor of Philosophy - PhD in Applied Mathematics New Orleans, LA, USA
  ∘ GPA: 4.00/4.00

- **Vietnam National University - University of Education** *Sep 2013 - Jul 2017*
Bachelor in Mathematics Teacher Education, Summa Cum Laude Hanoi, Vietnam
  ∘ GPA: 3.81/4.00

RESEARCH INTERESTS

Mathematical and Statistical Modeling, Data Analysis, Change-Point Detection, Intracellular Transport, Machine Learning, Hierarchical Models, Bayesian Inference.

SKILLS

- **Programming:** Python, R, LaTex, Maple, SQL, MatLab, Microsoft Office.

- **Python:** Influent in using JAX, tskit, Numpy, Matplotlib, PyTorch

- **R:** Influent in using RStudio, including R Script, R Markdown, packages ggplot2, tidyverse, dplyr, stats, MASS, caret, tidymodels, parallel

- **Languages:** Strong reading, writing and speaking competencies for English and Vietnamese.

EMPLOYMENT HISTORY

- **Tulane University** *2019 - present*
PhD Candidate/Graduate Teaching Associate/Graduate Research Assistant New Orleans, LA, USA

- **NSF-Simons Southeast Center for Mathematics and Biology** *2022 - present*
Junior Researcher Atlanta, GA, USA

- **Vietnam National University, University of Science** *2017 - 2019*
Lecturer Hanoi, Vietnam

RESEARCH PUBLICATIONS   I= IN PREPARATION, B= BOOKS AND CHAPTERS, J=JOURNAL, S=IN SUBMISSION, T=THESIS

[T] **Linh Do** (2025). **Changepoint detection: theory, algorithms, and application in intracellular transport**. *Tulane University*.

[J.1] Dat Do, **Linh Do**, XuanLong Nguyen (2025). **Strong identifiability and parameter learning in regression with heterogeneous response**. *Electronic Journal of Statistics*, 19 (1) 131 - 203.

[S.1] Dat Do, **Linh Do**, Scott A. McKinley, XuanLong Nguyen, Jonathan Terhorst (2024). **Dendrogram of mixing measures: Hierarchical Clustering and model selection for finite mixture models**. The manuscript is under review with *Journal of the American Statistical Association*.

[S.2] Keisha J. Cook, Nathan Rayens, **Linh Do**, Christine K. Payne, and Scott A. McKinley (2024). **Considering experimental frame rates and robust segmentation analysis of piecewise-linear microparticle trajectories**. The manuscript is submitted for publication in *Mathematical Biosciences and Engineering*.

[B.1] Nguyen, A.T., Pham, H.T.T, Trinh, Q.A, **Linh Do**, Dang, P.A, & Hens, L., (2021).**The geography of climate change adaptation in the vietnam northern mountains: A quantitative analysis for intentions of indigenous ethnic minorities using structural equation modeling (sem) and protection motivation theory (pmt)**. In: Rai, P.K., Singh, P., Mishra, V.N. (eds) Recent Technologies for Disaster Management and Risk Reduction. Earth and Environmental Sciences Library. Springer, Cham.

[I.1] **Linh Do** and et al. **CPLASS - A segmentation analysis in noisy trajectories**. To be submitted to *Journal of Computational and Graphical Statistics*

[I.2] **Linh Do** and et al. **Dendrogram of signal functions for summarization and model selection in changepoint detection**. In preparation for submission to the *Journal of Statistical Planning and Inference*.

PRESENTATIONS

- **Strong identifiability and parameter learning in regression with heterogeneous response.** 13th International Conference on Bayesian Nonparametrics (Puerto Varas, Chile). *Oct 2022.*
- **Mixture Model and the applications.** Graduate Colloquium at the Department of Mathematics, Tulane University. *Nov 2022.*
- **A new changepoint algorithm detecting multiple change-in-velocity.** NSF-Simons Southeast Center for Mathematics and Biology (SCMB). *Oct 2023.*
- **Dendrogram of mixing measures: Hierarchical clustering and model selection for finite mixture models.** Joint Statistical Meetings (Portland, Oregon). *Aug 2024*
- **Inferring and interpreting heterogeneous data using dendrograms.** Computational and Applied Math Seminar at the Department of Mathematics, Tulane University. *Nov 2024.*

TEACHING AND ADVISING

- **Graduate Teaching Assistant** *2019 - present*
  Tulane University - Department of Mathematics
  ◦ MATH 1110: Probability and Statistics
  ◦ MATH 1230: Statistics for Scientists
  ◦ MATH 1210: Calculus I
  ◦ MATH 1220: Calculus II
  ◦ MATH 2210: Calculus III

- **Lecturer** *2017-2019*
  Vietnam National University, University of Science
  ◦ Applied Statistics
  ◦ Mathematical Statistics and Probability
  ◦ Calculus I, II, III
  ◦ Linear Algebra

HONORS AND AWARDS

- **Mathematical Sciences and Research Institute (MSRI) Summer Program Admission** *2022*
  MSRI & Courant Institute in New York
  ◦ The award was being selected into the program. Mathematics of Machine Learning (INdAM and Courant Institute).

- **Toshiba Scholarship for young scientists** *2018*
  Toshiba
  ◦ The Toshiba scholarship program aims to support students, graduate students, and graduate students (students) with excellent academic and research achievements.

- **Golden record of excellent valedictorians graduating from universities in Hanoi, Vietnam** *2017*
  Hanoi Municipal Party Committee - Hanoi People's Council - Hanoi People's Committee.
  ◦ The program to honor outstanding valedictorians graduating from universities and academies in Hanoi in 2017, organized by the Hanoi Municipal Party Committee, the People's Council, and the People's Committee.

- **Prize for Outstanding Student Performance** *2017*
  Hanoi University of Science and Hanoi University of Education, VNU
  ◦ For students with excellent achievement in learning and scientific research.

VOLUNTEER EXPERIENCE

- **Conference Organizer, Marketing and Photography** *2019*
  Math For All - Tulane University - New Orleans - Louisiana.
- **Session Leader** *2020*
  Boys at Tulane in STEM (BATS) - K-12 STEM Education Events - Tulane Univerisity - New Orleans - Louisiana.

REFERENCES

1. **Scott A. McKinley**
   Associate Professor, Department of Mathematics
   Tulane University
   Email: scott.mckinley@tulane.edu
   Phone: +1-504-862-3246
   Role: Thesis Advisor / Chair of Dissertation Committee

2. **Lifeng Han**
   Professor of Practice, Department of Mathematics
   Tulane University
   Email: lhan1@tulane.edu
   Phone: +1-504-862-3435
   Role: Professor

3. **Michael Joyce**
   Senior Professor of Practice, Department Chair, Department of Mathematics
   Tulane University
   Email: mjoyce3@tulane.edu
   Phone: +1-504-862-3438
   Role: Advisor/ Professor

4. **XuanLong Nguyen**
   Professor, Department of Statistics
   University of Michigan
   Email: xuanlong@umich.edu
   Phone: +1-734-763-3499
   Role: Professor

5. **Viet Cuong Do**
   Associate Professor, Department of Mathematics
   Vietnam National University, Hanoi University of Science
   Email: vcuong.do@gmail.com
   Phone: +84 868961764
   Role: Professor