

# Yuanyuan Feng

## Curriculum Vitae

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### Education

- 08/2013 – **Ph.D. in Mathematics**, *Carnegie Mellon University*.  
present Advisor: Gautam Iyer
- 01/2018 – **M.S. in Machine Learning**, *Carnegie Mellon University*.  
present
- 08/2008 – **B.S. in Mathematics**, *Tsinghua University*.  
07/2013 Advisor: Ning Jiang

### Research interests

Partial differential equations, mixing and diffusion, fluid dynamics, systems with memory, analysis of machine learning algorithms

### Preprints and publications

- [1] Y. Feng, G. Iyer, *Dissipation enhancement by mixing*, <https://arxiv.org/abs/1806.03699>. Submitted.
- [2] Y. Feng, L. Li, J.-G. Liu and X. Xu, *A note on one-dimensional time fractional ODEs*, *Appl. Math. Lett.*, Vol. 83, 2018.
- [3] Y. Feng, L. Li and J.-G. Liu, *Semi-groups of stochastic gradient descent and online principal component analysis: properties and diffusion approximations*, *Comm. Math. Sci.*, Vol. 16, 2018.
- [4] Y. Feng, L. Li, J.-G. Liu and X. Xu, *Continuous and discrete one dimensional autonomous fractional ODEs*, *Discrete Contin. Dyn. Syst. Ser. B*, Vol. 23, Issue 8, 2018.

### Conferences and workshops attended

- 03/2017 CNA-Ki-Net Workshop on "Dynamics and Geometry from High Dimensional Data", Carnegie Mellon University, US
- 01/2017 Ipam workshop on "Turbulent Dissipation, Mixing and Predictability", UCLA, US
- 11/2016 Ki-Net Young Researchers Workshop, Duke University, US
- 07/2016 CNA Conference in honor of David Kinderlehrer's 75th birthday on "Topics in Applied Nonlinear Analysis: Recent Advances and New Trends", Carnegie Mellon University, US
- 06/2016 Dynamics and Differential Equations, University of Minnesota, US
- 05/2016 Challenges in Statistical Physics and Fluid Dynamics, a Conference in Honor of Charlie Doering's 60th Birthday, Brigham Young University, US

- 05/2016 Analysis of PDEs of Fluid Mechanics, Rice University, US
- 05/2015 Ki-Net-CNA Workshop: "Groups and interactions in data, networks and biology", Carnegie Mellon University, US
- 05/2015 Workshop on Interdisciplinary Mathematics, Williamsport, PA, US

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### Teaching experience

- Fall 2016 TA for 21-269 Vector Analysis
- Fall 2017 TA for 21-120 Calculus I
- Spring 2018 TA for 21-120 Calculus I
- Fall 2018 TA for 21-120 Calculus I

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### Computational Skills

Matlab, Python.