

Yixiang Deng

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PROFESSIONAL EXPERIENCE

- Postdoc Fellow**, Ragon Institute of MGH, MIT and Harvard. 10/2021–present
Advisor: Galit Alter
- Visiting Scientist**, MIT. 11/2021–present
Advisor: Douglas A. Lauffenburger
- Visiting Graduate Research Student**, Beth Israel Deaconess Medical Center (BIDMC). 08/2020–06/2021
Advisor: Christos S. Mantzoros
- Summer Graduate Research Intern**, Pacific Northwest National Laboratory. 05/2018–08/2018
Advisor: Xiu Yang

EDUCATION

- Ph.D. in School of Engineering**, Brown University. 09/2016–09/2021
Advisor: George Em Karniadakis
- M.S. in Division of Applied Mathematics**, Brown University. 09/2017–05/2019
- M.S. in School of Engineering**, Brown University. 09/2015–05/2017
- B.Eng. in Department of Engineering Mechanics**, Shanghai Jiao Tong University. 09/2011–06/2015
Thesis Advisor: Jiasong Wang

HONOR AND AWARDS

- Traveling Award**, The Rising Stars in Mechanical Engineering Workshop. 2021
- Corinna Borden Keen Research Fellowship**, Brown University. 2019–2020
- Traveling Award**, The US National Congress on Computational Mechanics (USNCCM15). 2019
- Traveling Award**, The Applied Mathematics: The Next 50 Years, the Data Science and Optimization Workshop. 2019
- Traveling Award**, Workshop on Recent Developments on Mathematical/Statistical approaches in DATA Science (MSDAS). 2019
- George Irving Hopkins Fellowship**, Brown University. 2018–2019
- Recipient of (7th Cohort) Open Graduate Education Program**, Brown University Graduate School. 2018
- Outstanding Graduate**, Shanghai Jiao Tong University. 2015
- The Third Prize Scholarship**, Shanghai Jiao Tong University. 2014

SELECTED PUBLICATIONS

- Q. Zhang, K. Sampani, M. Xu, S. Cai, **Y. Deng**, H. Li, J. Sun, G. Karniadakis, AOSLO-net: A deep learning-based method for automatic segmentation of retinal microaneurysms from adaptive optics scanning laser ophthalmoscope images. *Under review*. 2022
- H. Li*, **Y. Deng***, Z. Li, C. Mantzoros, G. Frydman, A. Gallastegi, G. Karniadakis, Computational modeling of microthrombus formation in COVID-19. *PLOS Computational Biology*. 2022
- H. Li, **Y. Deng**, K. Sampani, S. Cai, Z. Li, J. Sun, G. Karniadakis, Computational investigation of blood cell transport in retinal microaneurysms. *PLOS Computational Biology*. 2022
- Y. Deng***, L. Lu*, L. Aponte, A. Angelidi, V. Novak, G. Karniadakis, C. Mantzoros, Deep transfer learning and data augmentation improve early prediction of abnormal glucose levels in patients with type 2 diabetes. *npj Digital Medicine*. 2021

- E. Javadi, **Y. Deng**, G. Karniadakis, S. Jamali, *In silico* biophysics and hemorheology of blood hyperviscosity syndrome. *Biophysical Journal*. 2021
- A. Yazdani*, **Y. Deng***, H. Li*, E. Javadi, Z. Li, S. Jamali, J. Humphrey, C. Mantzoros, and G. Karniadakis, Integration of blood cell mechanics and platelet adhesive dynamics with coagulation cascade: application to normal and diabetic blood. *Journal of Royal Society Interface*. 2021
- Y. Deng**, G. Lin, X. Yang, Multifidelity data fusion via gradient-Enhanced gaussian process regression. *Communications in Computational Physics*. 2020
- Y. Deng***, D. Papageorgiou*, X. Li, N. Perakakis, C. S. Mantzoros, M. Dao, G. Karniadakis, Quantifying fibrinogen-Dependent aggregation of red blood cells in type 2 diabetes mellitus. *Biophysical Journal*. 2020
- Y. Deng***, D. Papageorgiou*, H. Chang, S. Abidi, X. Li, M. Dao, G. Karniadakis, Quantifying shear-induced deformation and detachment of individual adherent sickle red blood cells. *Biophysical Journal*. 2019
- L. Lu*, **Y. Deng***, X. Li, H. Li, G. Karniadakis, Understanding the twisted structure of amyloid fibrils via molecular simulations. *The Journal of Physical Chemistry B*. 2018
- *Equal contribution.

CONFERENCES AND WORKSHOPS

- The Rising Stars in Mechanical Engineering Workshop, MIT. 2021
- Women in Data Science (WiDS) Worldwide, Stanford University (virtual). 2021
- Red Cell Club Meeting, Virtual. 2020
- VPH2020, Inria, Paris, France (virtual). 2020
- SIAM MDS20: Machine Learning for Physical Systems, SIAM (virtual). 2020
- Red Cell Club Meeting, University of Rochester, Rochester. 2019
- The Applied Mathematics: The Next 50 Years, the Data Science and Optimization Workshop, University of Washington, Seattle. 2019
- The US National Congress on Computational Mechanics (USNCCM15) , University of Texas, Austin. 2019
- Workshop on Recent Developments on Mathematical/Statistical approaches in Data Science (MSDAS), University of Texas, Dallas. 2019
- Algorithms for Modern Power Systems (AMPS) Annual Workshop, American University, Washington, DC. 2018

SERVICES AND CERTIFICATES

- Member-at-large, U.S. Association for Computational Mechanics-Female Research Group (USACM-FRG). 2020-present
- Sheridan Teaching Seminar Program (Certificate I), The Sheridan Center for Teaching and Learning, Brown University. 2018
- Teaching Assistant, School of Engineering, Brown University. 09/2017–05/2018
- ENGN0030: Introduction to Engineering
 - ENGN0040: Dynamics and Vibrations