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## Research interest

### Statistics in Health Science

- Disease Mapping
- Survival Analysis
- Spatial-Temporal Analysis/Survival Analysis
- Study Design
- GWAS
- Multi-Omics with or without Longitudinal Analysis

### AI in Health Science

- Applications of Machine Learning/Neural Network to Health Science

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## Employment

<b>Syracuse, NY</b>	<b>Syracuse University</b>	<b>Fall 2016 – Spring 2018</b>
• Postdoctoral fellow in Pure Mathematics		

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## Education

<b>Jackson, MS</b>	<b>University of Mississippi Medical Center</b>	<b>Fall 2018 –</b>
• Research student in Biostatistics and Data Science		

<b>Columbia, MO</b>	<b>University of Missouri Columbia</b>	<b>Fall 2011 – 2016</b>
• Ph.D in Mathematics		

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## Teaching Experience

<b>Syracuse</b>	<b>Syracuse University</b>	<b>Fall 2016-Spring 2018</b>
• Calculus I, II, III		
• Introduction to Partial Differential Equations		
• Putnam coach for Mathematics team (my student got ranked 59th for all students across US and Canada)		

<b>Teaching Assistant</b>	<b>University of Missouri</b>	<b>Fall 2011 – Summer 2016</b>
• Courses: Calculus I, II, III		

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## Awards

<b>Jackson, MS</b>	<b>University of Mississippi Medical Center</b>	<b>Spring 2019</b>
• Associated Student Body award in Education category		

<b>Columbia, MO</b>	<b>University of Missouri Columbia</b>	<b>Fall 2011-Summer 2016</b>
• Invited to Hausdorff Research Institute for Mathematics, Bonn, Germany, for one month with full support – May 2014		
• Highest scores for Ph.D Analysis Qualifying Exams in Mathematics – Spring 2011		

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## Professional Service

<b>Jackson, MS</b>	<b>University of Mississippi Medical Center</b>	<b>Spring 2019</b>
• President of the UMMC chapter of American Statistics Association		
• Chair of Data Science Officer of School of Population Health in the UMMC Associated Student Body		

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## Publications

**Biostatistics and Health Science**

1. Effect of disparities on continuity and healthcare utilization among patients with obesity-associated chronic conditions (OCC) and the subgroup with diabetes (OCC+T2D) (first author, in progress)
2. Disparities of geography, economy, education, and uninsured rate on COVID19 cases and deaths in Mississippi (first author, submitted)
3. Continuity of Care for Patients with Obesity-Associated Chronic Conditions: Protocol for a Multisite Retrospective Cohort Study, JMIR Res Protoc 2020;9(9):e20788

### **Mathematics**

1. Hardy Inequalities and Caffarelli-Kohn-Nirenberg inequalities with radial derivative, with Nguyen Tuan Duy, Weijia Yin , 2020 Journal of Mathematical Inequalities, to appear
2. Sharp Trudinger-Moser inequalities with homogeneous weights, with Duy, Nguyen Tuan; Nghia, Le Trung; Electron J. Differential Equations 2019, N. 205
3. Carleson measure estimates and the Dirichlet problem for degenerate elliptic equations, with Steve Hofmann and Andrew Morris, ANALYSIS & PDE, Volume 12, No. 8, 2019
4. BMO solvability and absolute continuity of harmonic measure, with Steve Hofmann, The Journal of Geometric Analysis, Volume 28, Issue 4, pp 3278–3299
5. Uniform Rectifiability and harmonic measure IV: Ahlfors regularity plus Poisson kernels in  $L_p$  implies uniform rectifiability, with Steve Hofmann, Kaj Nystrom, Jose Maria Martell, Analysis and PDEs. Vol 10. No. 3 2017
6. Nonlinear versions of Stampacchia and Lax-Milgram theorems and applications, with Duong M. Duc and Nguyen H. Loc, Nonlinear Anal. 68 (2008), no. 4, 925931

### **Languages and Technologies**

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- SQL; SAS; R; Python; STATA; Julia (Beginning); Linux; Windows; MacOS; HPC
  - Bioconductor: DESeq2, limma, EdgeR, rTANDEM