

Yi (Grace) Wang

CONTACT INFORMATION	Math Department California State University, Dominguez Hills Carson, 90747, USA	<i>Office:</i> NSM A-120 <i>E-mail:</i> ywang@csudh.edu <i>Webpage:</i> https://mathgrace.github.io/
RESEARCH INTERESTS	Computational Harmonic Analysis, Statistical Learning, Modeling High-Dimensional Data Clouds by Low-Dimensional Structures, Signal and Image Processing, Real Data Applications.	
EDUCATION	University of Minnesota , Minneapolis, Minnesota USA Ph.D., Mathematics, Aug. 2012 <ul style="list-style-type: none">Thesis Topic: “Robust Hybrid Linear Modeling and its Applications” advised by Gilad Lerman M.S., Statistics, Aug. 2012 M.S., Mathematics, June 2010	
ACADEMIC EXPERIENCE	California State University - Dominguez Hills , Carson, California USA <i>Assistant Professor</i> August, 2018 - present	
	Syracuse University , Syracuse, New York USA <i>Assistant Professor</i> August, 2015 - August, 2018	
	Duke University , Durham, North Carolina USA <i>Visiting Assistant Professor (Mentor: Ingrid Daubechies)</i> August, 2012 - July, 2015	
	Statistical and Applied Mathematical Sciences Institute (SAMSI) , Durham, North Carolina USA <i>Postdoctoral Researcher</i> August, 2012 - July, 2014	
AWARDS AND GRANTS	RSCA (Research, Scholarly and Creative Activity) of CSUDH, 2019 GMR (Grants for My Research) of CSUDH, 2019 NIH Award (1R01EB025018-01): <i>QuBBD: Geometric Time-Frequency Methods for Multi-Modal Physiological Monitoring</i> . \$762,256, 01/2018 to 06/2020. Principal Investigator, with Yuejie Chi, Kun Huang and Simon Lin. SIAM Early Career Travel Award, 2014 SIAM Travel Award, 2012 Graduate Fellowship, HUST, 2005 Excellent Undergraduate Student, HUST, 2005 Kwang-Hua Scholarship, HUST, 2001	
PUBLICATIONS	Journal Papers <ol style="list-style-type: none">Lei, J., Wang, Y., Bi, Z., Xue, S., Ou, B., and Liu, K., <i>Intraoperative radiotherapy (IORT) versus Whole-breast external beam radiotherapy (EBRT) in early stage breast cancer: results from SEER database</i>. Accepted to Japanese Journal of Radiology, 2019.Lei, J., Wang, Y., Bhatta, L., Ahmed, J., Fan, D., Wang, J., and Liu, K., <i>Ventricular Geometry-Regularized QRSd Predicts Cardiac Resynchronization Therapy Response</i>:	

Machine Learning from Crosstalk between Electrocardiography and Echocardiography. The International Journal of Cardiovascular Imaging, 35(7):1221-1229, 2019 Jul.

3. O'Neal, W.T., Wang, Y., Wu, H.-T., Zhang, Z.M., Li, Y., Tereshchenko, L.G., Estes, E.H., Daubechies, I. and Soliman, E.Z. *Electrocardiographic J-Wave and Cardiovascular Outcomes in the General Population (from the Atherosclerosis Risk in Communities Study)*, The American Journal of Cardiology, <http://dx.doi.org/10.1016/j.amjcard.2016.06.047>, 2016.
4. Wang, Y., Chen, G., and Maggioni M., *High Dimensional Data Modeling Techniques for Detection of Chemical Plumes and Anomalies in Hyperspectral Images and Movies*, IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, DOI: 10.1109/JSTARS.2016.2539968, 2016.
5. Wang, Y., *Consistency and Convergence Rate for Nearest Subspace Classifier*, Information and Inference: A Journal of the IMA, DOI: 10.1093/imaiai/iaw006, 2016.
6. Daubechies, I., Wang, Y., and Wu, H., *ConceFT: Concentration of Frequency and Time via a multitapered synchrosqueezed transform*, Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences, 374(2065): 20150193, 2016.
7. Mahabal, A., Faraway, J., Zhang, L., Wang, Y., Wang, X. and Sun, J., *Modeling Light Curves for Improved Classification*, Statistical Analysis and Data Mining, DOI: 10.1002/sam.11305, 2016.
8. Wang, T., Chen, Y., Wang, Y., Wang, B., Wang, G., Li, X., Zheng, H. and Zhao, B., *The Power of Comments: Fostering Social Interactions in Microblog Networks*, Springer Frontiers of Computer Science, DOI: 10.1007/s11704-016-5198-y, 2015.
9. Wang, Y., Wu, H., Daubechies, I., Li, Y., Estes, H., and Soliman, E. *Automated J Wave Detection from Digital 12-lead Electrocardiogram*, Journal of Electrocardiology, Vol. 48, No. 1, pp. 21-28, 2015.
10. Wang, Y., Szlam, A. and Lerman, G., *Robust Locally Linear Analysis with Applications to Image Denoising and Blind Inpainting*, SIAM Journal on Imaging Sciences (SIIMS), Vol. 6, No. 1, pp. 526-562, 2013.
11. Zhang, T., Szlam, A., Wang, Y. and Lerman, G., *Hybrid Linear Modeling via Local Best Flats*, International Journal of Computer Vision, Volume 100, Issue 3, pp. 217-240, 2012.

Refereed Conference Papers

12. Wang, Y. and Szlam, A., *K-Mappings and Regression Trees*, IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), 2014.
13. Wang, Y. and Porikli, F., *Multiple Dictionary Learning for Blocking Artifacts Reduction*, IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), Paper: IVMS-P4.8, March 2012.
14. Hunt, F. Y., Marbukh, V. and Wang, Y., *A Mathematical Model of Joint Congestion Control and Routing in Multisource Networks*, Proceedings of the IEEE International Conference on Control Applications, CCA 2011.
15. Zhang, T., Szlam, A., Wang, Y. and Lerman, G., *Randomized Hybrid Linear Modeling by Local Best-fit Flats*, IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2010.

PRESENTATIONS	<i>Applied Math Seminar, University of California Riverside, Riverside, CA</i>	June, 2019
	<i>Data Science Workshop, Dallas, TX</i>	May, 2019
	<i>AWM Research Symposium, Houston, TX</i>	April, 2019
	<i>Colloquium, California State University - Dominguez Hills, Carson, CA</i>	February, 2018
	<i>Colloquium, University of San Francisco, San Francisco, CA</i>	January, 2018
	<i>Colloquium, Claremont McKenna College, Claremont, CA</i>	January, 2018
	<i>EECS Colloquium, Syracuse University, Syracuse, NY</i>	Novmber, 2017
	<i>Machine Learning Seminar, Ohio State University, Columbus, OH</i>	October, 2017
	<i>AMS sectional meeting, New York, NY</i>	May, 2017
	<i>Colloquium, Rensselaer Polytechnic Institute, Troy, NY</i>	December, 2016
	<i>Applied Math Seminar, General Electric Global Research Center, NY</i>	July, 2016
	<i>SIAM Conference on Imaging Science, Albuquerque, NM</i>	May, 2016
	<i>UP-STAT 2016 Conference, Buffalo, NY</i>	April, 2016
	<i>Math Colloquium, Colgate University, NY</i>	March, 2016
	<i>Machine Learning Seminar, Binghamton University (SUNY), NY</i>	March, 2016
	<i>Applied Math Seminar, University of Alabama at Tuscaloosa, AL</i>	February, 2015
	<i>Applied Math Seminar, Louisiana State University, LA</i>	February, 2015
	<i>Statistics Seminar, University of Wisconsin at Madison, WI</i>	February, 2015
	<i>Applied Math Seminar, Syracuse University, NY</i>	February, 2015
	<i>Applied Math Seminar, Michigan State University, MI</i>	January, 2015
	<i>Applied Math Seminar, College of Staten Island, NY</i>	March, 2014
	<i>Applied Math Seminar, University of Alabama at Birmingham, AL</i>	September, 2014
	<i>Digital Technology Center Seminar, University of Minnesota, MN</i>	October, 2014
	<i>SIAM Conference on Imaging Science, Hong Kong, China</i>	May, 2014
	<i>Applied Math Seminar, Claremont McKenna College, Claremont, CA</i>	Nov, 2013
	<i>IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Florence, Italy</i>	May, 2014
<i>Joint Statistical Meetings, Montreal, Canada</i>	August, 2013	
<i>SIAM Annual Meeting, San Diego, CA, USA</i>	July, 2013	
<i>Shape Analysis Seminar, UNC, Chapel Hill, NC, USA</i>	Nov, 2012	
<i>SIAM Annual Meeting, Minneapolis, MN, USA</i>	July, 2012	
<i>SIAM Conference on Imaging Science, Philadelphia, PA, USA</i>	May, 2012	

PROFESSIONAL SERVICES	<i>Associate editor for for the Preparing Undergraduate Mathematicians for PH.D.s (PUMP) journal,</i>	2019 - present
	<i>Reviewer for Special Issue "Mathematics of Data Science" of Analysis and Applications,</i>	2019
	<i>Reviewer for Journal of Clinical Monitoring and Computing,</i>	2019
	<i>Organizer of the Applied Math Seminar at Syracuse University,</i>	2016, 2017
	<i>Reviewer for Artificial Intelligence and Statistics Conference,</i>	2016
	<i>Reviewer for SIAM Journal on Imaging Sciences (SIIMS),</i>	2016
	<i>Review editor for Frontiers in Applied Mathematics and Statistics,</i>	2016
	<i>Reviewer for Conference on Neural Information Processing Systems (NIPS),</i>	2016
	<i>Reviewer for Applied and Computational Harmonic Analysis,</i>	2016
	<i>Reviewer for IEEE Transactions on Signal Processing,</i>	2014
<i>Reviewer for IEEE Transactions on Neural Networks and Learning Systems,</i>	2014	
<i>Panelist for National Science Foundation (NSF),</i>	2013, 2014	
<i>Reviewer for IEEE Signal Processing Letters,</i>	2013	

MENTORING EXPERIENCE	California State University Dominguez Hills, Carson, CA	August, 2018 - present
	Advising 4 undergraduate students on independent study and research projects.	

Syracuse University, Syracuse, NY **August, 2015 - August, 2018**

Advised 4 graduate students on independent study and research projects.

Jun Fang's project *Inferring Decision Strategies Based on the Path to a Choice* won best poster at the "Bounded Rationality" summer school in Max Planck institution, Berlin, Germany, June 2017.

Statistical and Applied Mathematical Sciences Institute, Durham, NC

REU Advisor

June, 2013

Helped with the organization. Presented on "How to make presentations". Helped to mentor the programming session.

University of Minnesota, Minneapolis, MN

MCM Advisor

October, 2010

Helped with the training session, evaluation of the final papers and advising in the Mathematical Contest in Modeling (MCM), Institute of Mathematics and Its Applications (IMA).

REU Mentor

June 14-July 16, 2010

Co-presented the problem, led students into simulations and answered questions in the special program, Interdisciplinary Research Experience for Undergraduates (REU), IMA.

TEACHING
EXPERIENCE

California State University - Dominguez Hills, Carson, California USA

Lecturer

August, 2018 - present

- Elementary Statistics and Probability, MAT 131
- Probability and Statistics, MAT 321

Fall 2018, Spring 2019

Fall 2018, Spring 2019

Syracuse University, Syracuse, New York USA

Lecturer

August, 2015 - August, 2018

- Topics in Data Science, MAT 880
- Math Methods for Data Science, MAT 500
- Calculus III, MAT 397
- Numerical Methods with Programming, MAT 581

Fall 2017

Fall 2016

Fall 2015, Spring 2016

Spring 2016, Spring 2017

Duke University, Durham, North Carolina USA

Lecturer

August, 2013 - July, 2015

- Multivariable Calculus, MATH 212
- Multivariable Calculus, MATH 212
- Introductory ODE and PDE, MATH 353

Fall 2013

Fall 2014

Spring 2015

University of Minnesota, Minneapolis, Minnesota USA

Teaching Assistant

September, 2006 - December, 2009

Taught discussion classes, held office hours and graded exams and homework.

- Calculus I, MATH 1271
- Calculus II, MATH 1272
- Pre-calculus, MATH 1151, MATH 1155

Fall 2008, Fall 2009

Fall 2006, Spring 2007

Fall 2007, Spring 2008

Grade homework.

- Probability and Statistics, MATH 5651

Spring 2009

INTERNSHIPS

Mitsubishi Electric Research Laboratories, Cambridge, Massachusetts USA

Research Assistant

June - August, 2011

Developed efficient sparse reconstruction methods for structured noise. Worked on blocking

artifacts reduction and local variance noise removal.

Vision-Ease Lenses, Ramsey, Minnesota USA

Research Assistant

June - August, 2008

Executed sustainability project, collected and analyzed data, and wrote and presented the final report.

PATENT

Method for reducing blocking artifacts in images.

Patent number: 8942467. Inventors: Fatih Porikli and Yi Wang.