

Xuemei CHEN

Department of Mathematics,
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Citizenship: Chinese

EDUCATION

B.S. Mathematics, East China Normal University, 2007

Ranking: 2nd in the Department of Mathematics among 178 students according to four years overall GPA.

M.S. Mathematics, Vanderbilt University, 2010

Ph.D Mathematics, Vanderbilt University, expected May 2012

- Advisor: Akram Aldroubi and Alex Powell

HONORS and AWARDS

- Best student paper at the 9th International Conference on Sampling Theory and Applications (SampTA), Singapore, 2011
- Graduate student travel grant from College of Art and Science, Vanderbilt University, 2011
- Excellent Academic Scholarship (top 2%), East China Normal University, 2003-2004, 2005-2006
- First-class of the 7th Chinese Undergraduate Mathematical Modeling Competition (With two others) for the paper entitled *Prediction and Analysis of Real Estate in Shanghai*, Summer 2005

RESEARCH INTEREST

Applied harmonic analysis, Compressed sensing, Subspace segmentation, Numerical analysis, Frame theory, Time-Frequency analysis, Probability

WORK IN PROGRESS

- Convergence rate of fast linear solvers like Kaczmarz algorithm and Rangan-Goyal algorithm; Connection between Kaczmarz algorithm and minimal energy problems
- Stability issues of the compressed sensing problem that recovers a signal sparse in a dictionary using frame theory
- Acceleration of algorithms for subspace segmentation problems

PUBLICATIONS

- Xuemei Chen, Alex Powell, *Almost sure convergence for the Kaczmarz algorithm with random measurements*, submitted
- Akram Aldroubi, Xuemei Chen, Alex Powell, *Stability and robustness of ℓ^q minimization using null space property*, Proceedings of SampTA 2011, Singapore
- Akram Aldroubi, Xuemei Chen, Alex Powell, *Perturbations of measurement matrices and dictionaries in compressed sensing*, accepted by Applied and Computational Harmonic Analysis , 2010

CONFERENCE TALKS AND POSTERS

- Poster: *Perturbations of measurement matrices and dictionaries in compressed sensing*
The Second Midwest Conference on Mathematical Methods for Images and Surfaces, Michigan State University, August 2011
- Talk: *Stability and robustness of ℓ^q minimization using null space property*
SampTA, Singapore, May 2011
- Talk: *Perturbations of measurement matrices and dictionaries in compressed sensing*
AMS 2011 Spring Southeastern Section Meeting, Statesboro, GA, March 2011
- Poster: *Perturbations of measurement matrices and dictionaries in compressed sensing*
February Fourier Talks, University of Maryland College Park, MA, USA, February 2011

SELECTED SEMINAR TALKS

- *Almost sure convergence for the Kaczmarz algorithm with random measurements*
Computational Analysis Seminar, Vanderbilt University, October 2011
- *Stability of Compressed Sensing*
Frame theory seminar, University of Missouri at Columbia, September 2011

SELECTED CONFERENCES ATTENDED

- The 8th SampTA conference, Marseille, France, May 2010
- The 10th SIAM Conference on Geometric Design & Computing, San Antonio, Texas, USA, November 2007

RESEARCH EXPERIENCE/INTERNSHIPS

- Internship in INRIA, Sophia Antipolis, France, summer 2009
Modifying Consensus Matching Pursuit to denoise multi-trial and multi-channel EEG signals under the supervision of Dr. Maureen Clerc

SERVICE

Referred papers for IEEE Signal Processing Letters

TEACHING EXPERIENCE

- Fall 2011: Instructor for Calculus II (Second semester engineering calculus sequence)
- Spring 2011: Teaching Assistant for Calculus I
- Fall 2010: Teaching Assistant for Calculus I
- Spring 2010: Teaching Assistant for Multivariable Calculus and Linear Algebra
- Fall 2009: Teaching Assistant for Calculus I
- Spring 2009: Teaching Assistant for Calculus II
- Fall 2008: Teaching Assistant for Calculus II
- Student Teaching: Taught high school math for six weeks, Shanghai Yanan High School, October, 2006

MISCELLANEOUS

- Computer Skills: Matlab, \LaTeX , C++, Mathematica
- Language Skills: Chinese (Native), English (fluent), French (elementary)

REFERENCES

Akram Aldroubi

Professor

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Vanderbilt University

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Ed. Saff

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Assistant Professor

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