

Bo Yang

Present Address

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Contact Information

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- Objective** An internship position that utilizes mathematical analytical and programming skills.
- Interests** Numerical analysis and scientific computing; Finite element methods; Mathematical modeling; Probability and statistics.
- Education**
- Ph.D. student in *Applied Mathematics*
University of Minnesota, Minneapolis, MN, USA 2013 (expected)
Advisor: Prof. Douglas N. ARNOLD
- B.S. in *Mathematics and Applied Mathematics*
University of Science and Technology of China, Hefei, Anhui, China 2007
Thesis advisor: Prof. SU Yucai
- Projects**
- COMPUTATION OF HARMONIC FORMS OF VECTOR LAPLACIAN
Current project advised by Prof. Doug Arnold. An algorithm is developed to compute the basis of the harmonic forms of the Hodge-Laplacian with suitable boundary conditions. The geometry of domain is computed to enhance efficiency. Various ways of approximate localization of harmonic basis are studied.
- FAST COMPUTATIONAL METHODS FOR RESERVOIR FLOW MODELS(team work)
A project from Exxon Mobil done in a graduate student workshop at the Institute for Mathematics and its Application (IMA), mentored by Dr. Robert Shuttleworth. Starting with PDEs modeling the production of oil, gas and water from underground, we used finite volume method, worked on various nonlinear and linear methods and obtained a faster simulation.
- FINITE ELEMENT SOLVER
A class project of the course *numerical analysis and scientific computing*, in which I did part of the coding of a 1D finite element solver. As an extension to 2D cases, I modified the original code to work with a class of PDEs on the unit square.
- Experience**
- TEACHING ASSISTANT
University of Minnesota, Minneapolis, MN Fall 2007 - Present
Taught *Short Calculus; Calculus 2; Linear Algebra and Differential Equations; Multivariable Calculus*. Lead discussion sections, design quizzes, grade exams, hold office hours.
- Advanced coursework** Numerical analysis and scientific computing, numerical analysis on PDEs, mathematical modeling, theory of statistics, stochastic processes, applied statistical methods.
- Computer Skills** Python, FEniCS, Matlab, C, R, L^AT_EX, Linux(Ubuntu), Windows, etc.
- Languages Skills** Chinese, English.
- Other Skills** Passed *Society of Actuary Exam P* with score of 10.