Zeyu Zhang

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EDUCATION

Sep. 2012 - Jun. 2016 Undergraduate Study	School of Mathematical Sciences University of Science and Technology of China (U.S.T.C) *Bachelor of Science in Mathematics and Applied Mathematics* **Major GPA:** 3.89/4.3 **Graduate Courses taken:** Advanced Probability Thoery, Differential Geometry **Topics Learned By Self:** Point Set Topology, Measure Theory
Sep. 2016 - present Graduate Study	Department of Mathematics University of Michigan, Ann Arbor *Master of Science in Quantitative Finance and Risk Management* **Overall GPA:** 3.977/4.0; **Major GPA:** 3.977/4.0 **Doctoral Courses taken:** Advanced Stochastic Analysis, Functional Analysis
Research Interests	Applied Probability Theory, Financial Mathematics, Random Matrix Thoery, Stochastic Control.

HONORS AND AWARDS

2016	USTC Scholarship(Dean's list)
2015	USTC Scholarship(Dean's list)
2014	USTC Scholarship(Dean's list)
2013	USTC Scholarship(Dean's list)
2013	Third Prize in the National Mathematics Contest
2012	Outstanding Freshman Scholarship(top 5%)
2012	First Prize in the National Mathematics Contest(top 5%)

RESEARCH EXPERIENCES

Sep.2015 - Jun. 2016	Random Matrix Theory School of Mathematical Sciences, USTC ◇ Descriptions: I read part of the book 'Topics in random matrix theory'(by Terence Tao) and discuss with the idea with my classmate in our probabilistic networks group and report to our advisor.
Sep.2015 - Jun. 2016	Appliction of Group Representation Theory In Some Stochastic Models School of Mathematical Sciences, USTC

$\diamond$ Descriptions: We aim to use Fourier transformation and Plancherel theorem as the main tools to discover the asymptotic properties of some stochastic models.

$\diamond$ Methodology: I finished reading the book 'Group Representation Theory in Probability and Statistics'(by Prof.Persi Diaconis) and wrote proof that when can we deduce that a random walk on some groups(e.g Z_2^d the vertices of a d-dimension cube, or Z_p the intergers modulo p where p is a prime number) is close to uniform distribution (in maximum metric sense) based on all the irreducible representation structures of those groups along with the Koss upper bound lemma.

May. 2017 - Sep. 2017	**The Existence of The Equilibrium Between Traders** Department of Mathematics, University of Michigan, Ann Arbor $\diamond$ Descriptions: I read the paper 'Endogenous Formation of Limit Order Books: Dynamics Between Trades' (By Prof. Sergey Nadtochiy and Roman Gayduk) and learn the existence and uniqueness solutions of a class of backward SDEs and how to transform the equilibrium between traders into an abstract fix point problem with proper topology structure then prove it by Kakutani fix-point theorem.
May. 2017 - Oct. 2017	**Opmization For Consumptions With Stochastic Control Tools** Department of Mathematics, University of Michigan, Ann Arbor $\diamond$ Descriptions: I solved a spectific stochastic optimal consumption problem comes from market by transforming it into corresponding Hamilton–Jacobi–Bellman equations. Then transform the HJB equations into an nonlinear PDE by reform the optimal value function. Then sovle it with separating the variables (it works with some proper assumtions e.g assume the dynamics of the price process). Finally I have used matlab to solve the SDEs correspond with the price proocess and given the numerical simulations for the process based on adjusted Black-Scholes model.

Seminars & Short Courses

Jul.2016	Random Matrix and Large Deviations Theory Organized by Prof. DangZheng Liu
Aug.2016	Several types of asymptotic behavior and limit theory in random matrix theory Organized by Prof. Pei Xu
Dec.2016	Group representation and some group structures for stochastic modeling Organized by Prof. DangZheng Liu
Sep.2015-Jun.2016	USTC Probabilistic Networks Group Organized by Prof. Ran Wang

Teaching Experience

Sep. 2015-Dec. 2015	Teaching Assistant, Complex Analysis(Credit 4 for sophomore students)
Mar. 2016-Jun. 2016	Teaching Assistant, Partial Differential Equations(Credit 4 for Senior students)