Qian Xie

Education

2009–2015* **PhD in Statistics**, *Florida State University*, Tallahassee, FL, Advisor: Anuj Srivastava.
Dissertation: "Statistical Analysis on High Dimensional Objects From Shape's Perspective"

2007–2009 **Master in Statistics**, *American University*, Washington, DC.
Thesis: "Modeling Spatial Disease Spread Pattern with Multiple Disease Sources."

2003–2007 **Bachelor of Economics in Statistics**, *Renmin University of China*, Beijing.
Thesis: "Confidence Interval Estimation for Odds Ratio of Binomial Distribution."

Honors & Awards

Boyd Harshbarger Travel Award, *Southern Regional Council on Statistics Summer Research Conference (SRCOS)*, Galveston, TX, 2014.

Graduate Student Research and Creativity Award, *Florida State University*, Tallahassee, FL, 2014.

Student Travel Award, *IEEE International Conference on Computer Vision (ICCV) 2013* , Sydney, Australia, 2013.

Ermine M. Owenby Jr. Fund to Promote Excellence, *Florida State University*, 2013.

Bagui Award (best student paper and presentation at the annual meeting), *Florida Chapter of the American Statistical Association*, 2013.

Outstanding Graduate Student, *Washington Statistical Society*, Chapter of the American Statistical Association, 2009.

Excellent Academic Achievement Award, *Department of Statistics and Mathematics*, American University, 2009.

Publications

Journals

Q. Xie, A. Srivastava and S. Kurtek (2014), "Analysis of AneuRisk65 data: elastic shape registration of curves", *Electronic Journal of Statistics*, 8, 1920–1929.

S. Kurtek, **Q. Xie** and A. Srivastava (2014), "Analysis of Juggling data: alignment, extraction, and modeling of juggling", *Electronic Journal of Statistics*, 8, 1865-1873.

Q. Xie, S. Kurtek, C. Samir, "Statistical model for simulation of deformable elastic endometrial tissue shapes", Submitted.

Z. Zhang, A. Srivastava and **Q. Xie**, "Elastic registration and shape analysis of functional objects", *Festschrift volume for Kanti Mardia 2014*, Submitted.

Q. Xie and A. Srivastava, "Role of registration in statistical shape analysis", *Statistics Surveys*, In Preparation.

J. Xie and **Q. Xie**, "The first steps towards statistical sociology: the preliminary constructions", *Statistics and Decision*, Volume 8, 2012.

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M. Jackson, L. Huang, **Q. Xie** and R. Tiwari, "A modified version of Moran's I", *International Journal of Health Geographics*, 9:33, 2010.

Proceedings

S. Kurtek, H. Laga and **Q. Xie** (2014), "Elastic Shape Analysis of Boundaries of Planar Objects with Multiple Components and Arbitrary Topologies", *The Asian Conference on Computer Vision (ACCV)*, November.

Q. Xie, I. Jermyn, S. Kurtek and A. Srivastava (2014), "Numerical inversion of SRNFs for efficient elastic shape analysis of star-shaped objects", *IEEE European Conference on Computer Vision (ECCV)*, 5, 485–499.

Q. Xie, S. Kurtek, E. Klassen, G. E. Christensen and A. Srivastava (2014), "Metric-based pairwise and multiple image registration", *IEEE European Conference on Computer Vision (ECCV)*, 2, 236–250.

Q. Xie, S. Kurtek, H. Le and A. Srivastava (2013), "Parallel transport of deformations in shape space of elastic surfaces", *IEEE International Conference on Computer Vision (ICCV)*, 865–872.

Q. Xie, S. Kurtek, G. E. Christensen, Z. Ding, E. Klassen and A. Srivastava (2012), "A novel framework for metric-based image registration", *WBIR'12 Proceedings of the 5th international conference on Biomedical Image Registration*, 276–285.

S. Ncube, **Q. Xie** and A. Srivastava (2012), "A geometric analysis of ODFs as oriented surfaces for interpolation, Averaging and Denoising in HARDI Data", *IEEE Workshop on Mathematical Methods in Biomedical Image Analysis (MMBIA)*, 1–6.

Q. Xie and A. Srivastava (2011), "An improved estimator of GRID model for representing large diffeomorphic deformations", *Proceedings of the Third International Workshop on Mathematical Foundations of Computational Anatomy - Geometrical and Statistical Methods for Modelling Biological Shape Variability*, 25–37.

Presentations

(2014) A Journey from Form to Function – How statistical shape analysis benefits diagnosing and treating diseases. *Abbvie*, North Chicago, IL.

(2014) Statistical Analysis of Parameterized Surfaces. *Joint Statistical Meetings (JSM) 2014*, Boston, MA.

(2014) Statistical Shape Analysis on Elastic Surfaces using Numerical Inversion of SRNFs. *Southern Regional Council on Statistics Summer Research Conference (SRCOS) 2014*, Galveston, TX.

(2013) Privacy-Preserving Classification. *Mitsubishi Electric Research Laboratories (MERL)*, Cambridge, MA.

(2013) Metric-Based Multiple Image Registration. *Fourth International Workshop in Sequential Methodologies (IWSM)*, Athens, GA.

(2013) A Novel Framework for Metric-Based Image Registration. *The Florida Chapter of the American Statistical Association Annual Meeting (FLASA)*, Pensacola, FL.

(2012) Analysis of Three-dimensional Vascular Geometry Datase. *Workshop on Statistics of Time Warpings and Phase Variations, Mathematical Biosciences Institute*, Columbus, OH.

(2012) Metric-Based Image Registration. *3rd Network of Greater Georgia Institutions for Neuroimaging and Statistics (NOGGINS) Workshop*, Athens, GA.

Professional Experience

2011–Present **Research Assistant**, *Dept. of Statistics,* Florida State University, Tallahassee.
Developed novel methods for statistical shape analysis applicable to medical imaging, computer vision and graphics.

2013 **Summer Intern**, *Multimedia Group*, Mitsubishi Electric Research Laboratories (MERL), Cambridge.
Designed Bayesian statistical tools and implemented algorithms for privacy-preserving classification.

2010–2011 **Consultant**, *Dept. of Statistics,* Florida State University, Tallahassee.
Provided statistical consulting service to clients on researches from other disciplines including education, finance and economics.

2009–2010 **Teaching Assistant**, *Dept. of Statistics,* Florida State University, Tallahassee.
STA 2122 "Introduction to Applied Statistics" (Instructor); STA 2023 "Fundamental Business Statistics" (Recitation).

Certificates

2009 Program for Instructional Excellence (PIE), Florida State University

2008 Base programmer for SAS9, SAS

2005 Exam P and FM, Society of Actuaries (SOA)

Computer skills

Software MatLab, R, S-Plus, SAS, BUGS, Eviews, SPSS, Python, Weka, MeshLab, Microsoft Office/OpenOffice, Latex, Lyx

Programming Experienced with C++, knowledge of SQL

OS Linux (Ubuntu) and Windows

Selected Courses

Statistics Model selection, Regression analysis, Logistic regression, High-dimensional statistics, Multivariate statistics, Nonparametric statistics, Functional data analysis, Stochastic processes, Spatial point processes, Time series, Sampling theory, Shape analysis

Computation Computational methods in statistics, Data management and analysis with SAS, Database using SQL Server, Programming with VB

Mathematics Operational research, Measure and integration, Riemannian geometry, Functional analysis, Functions of real variable,