CONTACT INFORMATION

Department of Mathematical Sciences	Office: Old Whitney Hall (OW), Room 315
State University of New York at Binghamton	☎: +1 (607) 761-7981
Binghamton, New York 13902–6000	✉: wdu1@binghamton.edu
United States of America	On the Web: http://www.math.binghamton.edu/wdu

EDUCATION

09/2010 – Present   Doctor of Philosophy in Mathematics (Concentration: Statistics)

Institution: *Department of Mathematical Sciences*
State University of New York at Binghamton
Binghamton, New York, United States of America
Advisor: *Aleksey S. Polunchenko*
GPA: *4.0/4.0*

09/2010 – 05/2012 Master of Arts in Mathematical Sciences

Institution: *Department of Mathematical Sciences*
State University of New York at Binghamton
Binghamton, New York, United States of America
GPA: *3.979/4.0*

09/2006 – 07/2010 Bachelor of Science in Computational Mathematics

Institution: *Department of Mathematics*
Dalian University of Technology
Dalian, Liaoning, P.R. China
GPA: *90.7/100*

EMPLOYMENT

06/2014 – 08/2014 Data Scientist (Internship)

Institution: *Solar Durability and Lifetime Extension (SDLE) Center*
Case School of Engineering
Case Western Reserve University
Cleveland, Ohio, United States of America

Duties:
- *Developed a Semi-gSEM R package implementing paralleled algorithm which handled big data.*
- *Designed predictive statistical model for big real-world data with large sample size and high dimensions.*
- *Conducted Exploratory Data Analysis (EDA) by using ggplot, pairplot and residual plot in R.*
- *Performed high dimensional data visualization, outlier identification and analysis by using GGobi.*
- *Developed an interactive R program for image analysis, which enabled functionalities of cropping, converting from color to gray scale, boundary identification and dark area computation.*
- *Adopted Git to fulfill version control and non-linear development of software.*
- *Utilized Hadoop to collect real-world data and analyzed the big data set by using R.*

09/2010 – Present   Graduate Research and Teaching Assistant

Institution: Department of Mathematical Sciences
State University of New York at Binghamton
Binghamton, New York, United States of America

AREAS OF PROFESSIONAL INTEREST

- Statistical Data Analysis and Inference
- Sequential Analysis
- Sequential Quickest Change-Point Detection Problem
- Dimension Reduction and Visualization of Big Data
- Statistical Software Development

AWARDS AND HONORS

2013 International Workshop on Sequential Methodologies 2013 Student Scholarship Award

2013 New York State and Graduate Student Employees Union Professional Development Award

TEACHING EXPERIENCE

At the State University of New York at Binghamton

- As an Instructor:
  MATH 222 - Calculus II: Fall 2013, Spring 2014
  MATH 221 - Calculus I: Fall 2012, Spring 2013
  MATH 130 - Mathematics in Action: Summer 2012
- As a Teaching Assistant:
  MATH 148 - Elementary Statistics for Biologists: Fall 2011, Spring 2012
  MATH 147 - Elementary Statistics: Fall 2010, Spring 2011

PUBLICATIONS

1. **Du, W.**, Polunchenko, A.S. and Sokolov, G., "Robustness of the Shiryaev–Roberts Quickest Change-Point Detection Procedure with Respect to Post-Change Parameter Misspecification", *to be submitted to Methodology and Computing in Applied Probability*, 2014. **Invited paper for Special Issue dedicated to the 7-th International Workshop on Applied Probability (IWAP'2014)**.

2. **Du, W.**, Sokolov, G., and Polunchenko, A.S., "An Exact Formula for the Average Run Length to False Alarm of the Generalized Shiryaev–Roberts Detection Procedure under Exponential Observations", *Proceedings of the 12-th German–Polish Workshop on Stochastic Models, Statistics and Their Applications*, 2014, (submitted).

3. Hossain, M.A., Hu, Y., Wheeler, N.R., Gok, A., Zhao, P., **Du, W.**, Randall, M., Weiss, E., Fagerholm, C., Kidwell, R., Fada, J., Xu, Y., Bruckman, L.S., Peshek,T.J., Zhang, G., Sun, J., and French,H., "Lifetime and Degradation Science Approach towards Photovoltaic System Reliability", *Proceedings of the 2014 IEEE Conference on Reliability Science for Advanced Materials and Devices*, 2014, (submitted).

4. Polunchenko, A.S., Sokolov, G., and **Du, W.**, "Efficient Performance Evaluation of the Generalized Shiryaev–Roberts Detection Procedure in a Multi-Cyclic Setup", *Applied Stochastic Models in Business and Industry*, 2014 (accepted, in press). DOI: 10.1002/asmb.2026. **Invited paper for Special Issue dedicated to the 30-th Quality and Productivity Research Conference (QPRC'2013)**.

5. Polunchenko, A.S., Sokolov, G., and **Du, W.**, "An Accurate Method for Determining the Pre-Change Run-Length Distribution of the Generalized Shiryaev–Roberts Detection Procedure", *Sequential Analysis*, **33**:(1), pp. 112–134, 2014; DOI: 10.1080/07474946.2014.856642. **Invited paper for Special Issue dedicated to the 4-th International Workshop in Sequential Methodologies (IWSM'2013)**.

6. Polunchenko, A.S., Sokolov, G., and **Du, W.**, "On Efficient and Reliable Performance Evaluation of the Generalized Shiryaev–Roberts Change-Point Detection Procedure", *Proceedings of the 56-th Moscow Institute of Physics and Technology Annual Scientific Conference*, Moscow Institute of Physics and Technology, Moscow, Russia, 25–30 November 2013.

7. Polunchenko, A.S., Sokolov, G., and **Du, W.**, "Quickest Change-Point Detection: A Bird's Eye View", *Proceedings of the 2013 Joint Statistical Meetings (JSM-2013)*, Montréal, Québec, Canada, 3–8 August 2013.

TALKS

10/23/2014 "On Robustness of the Shiryaev–Roberts Change-Point Detection Procedure under Parameter Misspecification in the Post-Change Distribution", Statistics Seminar, Department of Mathematical Sciences, Binghamton University, Binghamton, NY

04/26/2014 "Introduction to Change-Point Detection", The 28th New England Statistics Symposium (NESS'2014), School of Public Health, Harvard University, Boston, MA

07/19/2013 "An Accurate Method to Study the Shiryaev–Roberts Detection Procedure's Pre-Change Run Length Distribution", The 4th International Workshop on Sequential Methodologies (IWSM'2013), University of Georgia, Athens, GA

06/05/2013 "State-of-the-Art in Sequential Change-Point Detection", The 30th Quality and Productivity Research Conference (QPRC'2013), GE Global Research, Niskayuna, NY

02/20/2013 "An Accurate Method to Study the Shiryaev–Roberts Detection Procedure's Run Length Distribution", The 11th Workshop on Stochastic Models and Their Applications, Helmut Schmidt University, Hamburg, Germany

COMPUTER/PROGRAMMING SKILLS

- C/C++
- MATLAB
- Hadoop
- Git
- SQL
- Condor
- S-Plus/R, SAS
- LaTeX(MikTeX)
- Microsoft Windows, (U)NIX
- Microsoft Office

REFERENCES

Available upon request.