

BRIAN LOIS

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EDUCATION

Iowa State University, Ames, IA *August 2010 - May 2015*
Ph.D. Applied Mathematics and Electrical Engineering *GPA: 4.0*
Research Areas: **Big Data Algorithms, Machine Learning, Linear Algebra**

Marquette University, Milwaukee, WI *August 2006 - May 2010*
B.S. Mathematics *GPA: 4.0*

WORK EXPERIENCE

CapitalOne Financial *September 2016 - Present*
Data Scientist Manager *Plano, TX*

- Develop data science tools and capabilities in **Python**.
- Review code for credit decisioning models.

AT&T *June 2015 - September 2016*
Data Scientist *Plano, TX*

- Work on the Corporate Insights team which uses big data techniques to drive efficiency within the organization.
- Write code in **Python, R**, and **Pig**.
- Build **time-series forecasting** models to determine if internal advertisements are effective.
- Design and implement novel mathematical and statistical models to predict when mechanical equipment will require maintenance.

General Dynamics *August 2014 - April 2015*
Statistician Practicum Student *Des Moines, IA*

- Member of the health analytics team.
- Perform data analytics using SQL and SAS on the Chronic Conditions Warehouse dataset which contains all of the national Medicare claims and beneficiary data.

Iowa State University *August 2010 - May 2015*
Research and Teaching Assistant *Ames, IA*

- Proved the first correctness result for a recursive robust **principal components analysis** algorithm.
- Received the Graduate Teaching Excellence Award.
- Mentor a group of undergraduate REU students working on a research project entitled “Weighted Compressed Sensing.”
- Teach stand alone sections of Calculus 1, 2, and 3. Grade and hold office hours for various graduate and undergraduate mathematics and electrical engineering courses.

Marquette University *August 2007 - May 2010*
Undergraduate Teaching Assistant *Milwaukee, WI*

- Taught general chemistry labs and discussion sections.

(over)

AWARDS

Graduate College Research Excellence Award 2015

- Awarded by the university “to recognize the best of the best graduating students.”

Lambert Research Fellow January 2014 - May 2014

- Awarded to one or two upper-level mathematics graduate students each year.

Teaching Excellence Award 2013

- Awarded to no more than 10% of teaching assistants.

Department of Mathematics Outstanding Senior Award 2010

- Awarded to one graduating senior each year.

LEADERSHIP AND SERVICE ACTIVITIES

Graduate and Professional Student Senate August 2013 - November 2015

Math Department Representative

- Authored, passed, and assisted in implementation of a major bill to reform and update the way travel funding is distributed.
- Initiated and passed significant changes to the fiscal year 2015 budget.

Mathematics Graduate Student Organization August 2013 - May 2014

Executive Council Member

- Organized a career day where graduates of the program return to talk about their current careers.
- Secured funding from both the GPSS and the math department.

Information Processing for Big Data symposium 2014

Reviewer

- Peer-review papers submitted to the IEEE Global Signal and Information Processing Conference.

SELECTED PUBLICATIONS

A Correctness Result for Online Robust PCA

Brian Lois and Namrata Vaswani

Submitted to : Information Theory, IEEE Transactions on, March 2015 (under review)

Available: arXiv:1409.3959

Recursive Robust PCA or Recursive Sparse Recovery in Large but Structured Noise

Chenlu Qiu, Namrata Vaswani, **Brian Lois**, Leslie Hogben

Information Theory, IEEE Transactions on (Volume: 60 , Issue: 8) Aug 2014

Performance Guarantees for Undersampled Recursive Sparse Recovery in Large but Structured Noise

Brian Lois, Namrata Vaswani, Chenlu Qiu

IEEE Global Conference on Signal and Information Processing, Dec 2013