JEFF IRION

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<<will provide via email>>

http://jefflirion.github.io

https://github.com/jefflirion

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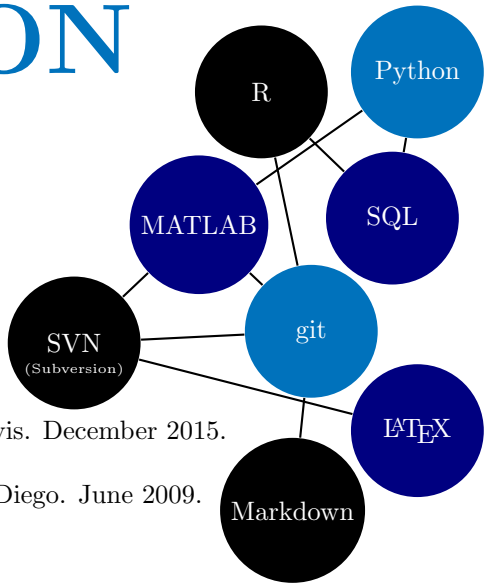

Education

Ph.D., Applied Mathematics, University of California, Davis. December 2015.
3.83 GPA. Adviser: Dr. Naoki Saito

B.S., Chemical Engineering, University of California, San Diego. June 2009.
3.75 GPA. Minors in Mathematics and Economics

Selected Coursework

- Numerical Methods
- Large-Scale Scientific Computation
- Applied Statistics
- Information Theory and Coding
- Graphs & Networks
- Numerical Optimization

Honors & Awards

- National Defense Science and Engineering Graduate (NDSEG) Fellowship
- National Merit Scholar
- UCSD Regents Scholar
- UC Davis VIGRE Award
- UCSD Provost's Honors

Experience

DATA SCIENCE CONSULTANT, Super Training Products January 2016 – February 2016
- Collected user data for products and used machine learning in `R` to develop a sizing algorithm.
- Implemented the resulting size calculator using `HTML/CSS` and `JavaScript`.

GRADUATE RESEARCH IN APPLIED MATH, UC Davis June 2012 – January 2016
- Developed algorithms for analyzing data on graphs; implemented these methods in `MATLAB`.
- Reduced approximation error by 13.2% in experiments using non-synthetic graph data.
- Achieved 4.1% and 8.0% improvement in noise removal experiments.
- Wrote code in `Python` to process real-world traffic data for use in research experiments.

MATRIX DATA ANALYSIS, UC Davis April 2015 – December 2015
- Developed and implemented methods for using graph-based techniques to analyze matrix data.
- Demonstrated an 83.7% improvement over previous results in matrix approximation experiments.

VIGRE RESEARCH IN APPLIED MATH, UC Davis June 2011 – September 2011
- Used PCA, FFT, and LDA to classify patients with varying degrees of Alzheimer's Disease.

MANUFACTURING TECHNICIAN III, Baxter Bioscience November 2009 – August 2010
- Produced Floseal. Created exception reports which drove decisions by the quality control team.

Selected Publications

- J. Irion and N. Saito, "Applied and computational harmonic analysis on graphs and networks," *Wavelets and Sparsity XVI* (M. Papadakis, V.K. Goyal, D. Van De Ville, eds.), *Proc. SPIE*, vol. 9597.
- J. Irion and N. Saito, "The generalized Haar-Walsh transform," *Proc. 2014 IEEE Statistical Signal Processing Workshop*, pp. 472–475, 2014.

Hobbies & Interests

- **Associate Editor and contributing author** – *POWER* magazine May 2012 – present
- **Competitive powerlifter** – elite status in the 220 and 242 lbs. classes 2006 – present