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MARK HEIMANN

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EDUCATION

University of Michigan **Ann Arbor, MI** **2015-Present**
- Ph.D in Computer Science (in progress). Research emphasis in data mining methods for large networks.

Washington University in St. Louis **St. Louis, MO** **2011-2015**
- M.S. in Computer Science with certificate in data mining and machine learning.
- A.B. in Economics and Mathematics *cum laude* with high distinction in economics.

EXPERIENCE

Research Assistant **University of Michigan** **2015-2017**
Computer Science Department Ann Arbor, MI
- Coauthored papers (in submission) on network alignment and fast methods for large-scale linear systems.
- Reviewer for conferences and journals: DAMI, PKDD, AAAI.

Teaching Assistant **University of Michigan, WUSTL** **2014-2017**
Computer Science Department Ann Arbor, MI / St. Louis, MO
- UMich (2016-17): Foundations of Theoretical Computer Science, Introduction to Artificial Intelligence
- Washington University (2014-15): Introduction to Machine Learning, Multi-Agent Systems, Fair Division

Software Engineer Intern **Algorithmia** **2015**
Algorithm Development Team Seattle, WA
- Made cutting edge machine learning algorithms easy to use through a standardized API. *Python*
- Created applications to demonstrate their potential (Face Recognition demo in top 10 on Hacker News).

Researcher **NSF, NHLBI Undergraduate Research** **Summers 2012-2014**
Summer undergraduate research programs Claremont, CA et. al
- 2014: Designed and implemented algorithm to generate more harmonically structured jazz solos. *Java*
- 2013: Resolved open mathematical questions with applications to computer science and biology.
- 2012: Studied biostatistics and analyzed biomedical datasets as part of an accompanying practicum. *R*

Chess Instructor **Freelance** **2011-2012**
- Designed and taught chess lessons to individuals and groups of students of varying ages and skill levels.

PUBLICATIONS

- Mark Heimann and Danai Koutra. On generalizing neural node embedding methods to multi-network problems. *KDD Workshop on Mining and Learning with Graphs (MLG)*, 2017.

AWARDS

- **KDD Travel Grant (2017):** Funding from conference to attend and present work.
- **Adam Smith Prize for Excellence in Economics (2015):** For writing an outstanding senior thesis.
- **Arnold J. Lien Scholarship (2011):** Four-year full-tuition merit scholarship.

SELECTED PROJECTS

- **Deep Learning for Node Representation and Graph Alignment**: Designed and implemented algorithm to jointly learn node representations and alignments. Supervised undergraduate research. *Tensorflow*
- **Intonation Analysis:** Allowed user to play or sing into a microphone and computed the best fit musical tuning. Visualized intonation accuracy according to this tuning with Matplotlib. *Python*
- **Augmented Thumb Piano with Inertial Tracking:** Tracked a thumb piano's gyroscope information and used it to allow a performer to control the instrument's volume and delay in real time. *Max/MSP*

ACTIVITIES

- **Chess:** Active USCF and FIDE Master. Multiple scholastic and collegiate national titles and state open titles.
- **Other interests:** Music (experimental acoustic and electronic genres), competitive powerlifting (USAPL)