Mark Heimann

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Professional Summary

Machine learning scientist with 6+ years of experience working with graph neural networks, foundation models, and applied ML in scientific domains. Bridging the gap between foundational AI research and application. Strategic thinker and problem-solver with a unique background as a chess grandmaster and active professional player.

Experience

Lawrence Livermore National Laboratory

Senior Research Scientist (2022–Present); Postdoctoral Researcher (2020-2022)

- Conducted foundational research in graph neural networks, computer vision, self-supervised learning, few-shot learning, and uncertainty quantification.
- Published in top conferences and journals including NeurIPS, ICLR, WACV, and TVCG. Full list of papers at markheimann.github.io
- Led machine learning research on cross-functional teams in bioinformatics, software analysis, and power systems. Co-PI for DOE-funded project.
- Established long-term partnerships with multiple academic institutions.
- Mentored graduate students and recent PhDs.

Adobe Research

Data Science Research Intern (Winter 2019)

- Designed and implemented new algorithm for large-scale cross-device entity resolution on web log data for millions of users.

Information Sciences Institute

Research Intern (Summer 2019)

- Identified harmful behavior in online social media sessions using network structure and post content.

Education

- University of Michigan, Ann Arbor (2015-2020)
  Ph.D. Computer Science
- Washington University in St. Louis (2011-2015)
  M.S. Computer Science,
  A.B. Economics & Mathematics

Selected Honors

- Chess Grandmaster (2024)
- Best Student Paper: ICDM ‘19
- Best Program Committee Member: WebConf ‘21, ‘24

Additional Projects

Professional Chess

- Earned grandmaster title, the highest title in the game, while working full-time in AI research. wikipedia.org/wiki/Mark_Heimann
- Coached multiple students to national master level.
- Gave talks to business and engineering leaders about insights for the tech world from chess.

Chess Ratings Analysis

- Co-led an in-depth statistical study of a dataset of >10M chess games, demonstrating the chess rating system’s statistical bias for some demographics of players.
- Identified specific chess policies that contributed to bias.

Skills and Competencies

- PyTorch, PyTorch Geometric, Hugging Face, scikit-learn, Pandas
- Technical writing & presenting
- Teaching & mentoring
- Cross-functional collaboration