Thomas Cohn

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EDUCATION

University of Michigan, Ann Arbor, USA 2017 - Present
College of Engineering: Computer Science BSE (Expected May 2022)
College of LSA: Honors Mathematics BS (Expected May 2022)
Minors: Statistics, Music
GPA: 3.71/4.00

RESEARCH

Articles

- **Thomas Cohn**, Nikhil Devraj, Odest Chadwicke Jenkins, "Topologically-Informed Atlas Learning," *arXiv 2021.* To appear in *Proceedings of the 2022 IEEE International Conference on Robotics and Automation (ICRA).*
- **Thomas Cohn**, Odest Chadwicke Jenkins, Karthik Desingh, Zhen Zeng, "TSBP: Tangent Space Belief Propagation for Manifold Learning," *Robotics and Automation: Letters 2020.*

Presentations

- "Topologically-Informed Atlas Learning," *University of Michigan Engineering Research Symposium Fall 2021.* (Poster Presentation) - **1st Place Award**
- "Coordinate Chart Particle Filter for Deformable Object Pose Estimation," *University of Michigan Engineering Research Symposium Winter 2021.* (Poster Presentation)
- "TSBP: Tangent Space Belief Propagation for Manifold Learning," *International Conference on Intelligent Robots and Systems (IROS) 2020.* (Technical Talk)
- "TSBP: Tangent Space Belief Propagation for Manifold Learning," *University of Michigan Engineering Research Symposium 2019.* (Poster Presentation)

TEACHING

University of Michigan, Ann Arbor, Michigan, USA Winter 2022
Instructor Aide, *Introduction to Autonomous Robotics*

University of Michigan, Ann Arbor, Michigan, USA Fall 2021
Instructor Aide, *Introduction to AI and Programming*

University of Michigan, Ann Arbor, Michigan, USA Winter 2020
Instructor Aide, *Introduction to Microprocessor Computing Systems*

University of Michigan, Ann Arbor, Michigan, USA Winter 2019
Instructor Aide, *Introduction to Microprocessor Computing Systems*

WORK EXPERIENCE

Laboratory for Progress, University of Michigan Research Assistant
Ann Arbor, MI, USA 2016 - Present
Research Advisor: Professor Chad Jenkins

Robotics @ Marygrove, University of Michigan — Curriculum Designer
Ann Arbor, MI, USA — 2021

Number DNA — Software Developer
Ann Arbor, MI, USA — 2017 - 2018

Center for Healthcare Engineering and Patient Safety — Software Developer
Ann Arbor, MI, USA — 2017

Green Ladder Technologies LLC — Embedded Systems Developer
Batavia, IL, USA — 2015 - 2016

EXTRA-CURRICULAR ACTIVIES

Michigan Marching Band, University of Michigan — 2017 - 2022
Cymbal section leader 2019 - 2022

Michigan Hockey Pep Band, University of Michigan — 2017 - Present

Michigan Percussion Chamber Ensemble, University of Michigan — 2018 - 2020

HONORS AND AWARDS

University of Michigan College of Engineering Honors Program (Computer Science)
University of Michigan College of Literature, Science, and the Arts Honors Program (Mathematics)
Tau Beta Pi Honor Society
Phi Kappa Phi Honor Society
Dean's List
University Honors
The Gloria Wille Bell and Carlos R. Bell Scholarship
Raab Family Scholarship
Regents Merit Scholarship
Wanda W. Lincoln Scholarship
Detroit News/CATCH Scholarship for Mathematics

RELEVANT COURSE-WORK

Computer Science: Object-Oriented Programming, Data Structures and Algorithms, Algorithms for Data Science, Autonomous Robotics, Computer Security, Machine Learning, Computer Vision, Computational Statistics

Mathematics: Multivariable Calculus, Differential Equations, Abstract Algebra (Group Theory, Ring/Module Theory), Probability Theory, Graph Theory, Linear Algebra, Numerical Methods, Topology, Differentiable Manifolds, Riemannian Geometry, Convex Optimization