DAVID JIN

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EDUCATION

University of Michigan / Master of Mathematics GPA: 3.85/4.0
January 2020 - May 2020
Concurrent Undergraduate Graduate Study Program

University of Michigan / Bachelor of Arts - Honors Mathematics and Philosophy GPA: 3.8/4.0
September 2016 - May 2020

Graduate Math coursework: Complex Systems Theory (550), Set Theory (582), Topology (590), Algebraic Topology I (592), Algebra I (593), Algebra II (594), Algebraic Geometry I (631), Differential Geometry (636), Elliptic Curves (679), Algebraic Topology II (695)

Graduate CS coursework: Algorithms (586), Artificial Intelligence (592), Mathematics of Machine Learning (651)

WORK EXPERIENCE

Michigan Tech Research Institute / Research and Development Intern
May 2019 - September 2019

- Worked as primary developer on two government-funded research projects.
- Presented technical reports to clients and collaborators on a bi-weekly basis.
- **Project 1:** Developed an intelligent agent using Monte Carlo Tree Search to solve a dynamic tracking problem with remote sensing. Utilized the approach of Silver and Veness from "Monte-Carlo Planning in Large POMDPs."
  Developed mathematical models of physical systems in order to simulate dynamic tracking.
- **Project 2:** Developed a machine learning classification algorithm to aid in automatic target recognition. New algorithm saw significant improvements in accuracy measures over previous results.

University of Michigan Honors Program / Honors Resident Advisor
August 2018 - Present

- Provided consistent academic and personal mentorship for a community of over 80 honors residents.

University of Michigan Department of Mathematics / Course Assistant
July 2017 - August 2018

- Led problem sessions for summer Graph Theory courses with Professor Doug Shaw.

SKILLS

Strengths

- Very strong problem solving skills, with particular ability to deal with abstraction and complexity
- Strong technical writing and presentation skills, especially to groups of varying technical understanding

Technical Proficiencies

- Good understanding of linear algebra, real analysis, statistics, and probability
- Experience with mathematical models to simulate and analyze complex empirical problems
- Proficient in Java, including object-oriented programming, algorithms, and data structures
- Proficient in Python, including familiarity with statistical libraries such as NumPy, SciPy, and pandas
- Working knowledge of machine learning, with particular experience in Gradient Boosting

AWARDS

Hopwood Undergraduate Poetry Award, 2018
Marjorie Rapaport Award in Poetry, 2018