

## ABOUT ME

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I am a Ph.D. student at the University of Michigan. I am developing AI systems that emulate and model the unique manner in which humans learn. Namely, I aim to computationally model the reasoning processes and memory systems that enable humans to learn from direct instruction and small amounts of experience.

## EDUCATION

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<b>The University of Michigan</b> Ph.D. in Computer Science and Engineering Advisors: <a href="#">Honglak Lee</a> and <a href="#">Joyce Chai</a>	Ann Arbor, MI 2024–Current
<b>The University of Michigan</b> M.S. in Computer Science and Engineering	Ann Arbor, MI 2022–2024
<b>The University of Texas at Austin</b> B.S. in Computational Engineering, Certificate in Evidence and Inquiry	Austin, TX 2016–2020

## FELLOWSHIPS AND AWARDS

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• National Science Foundation Graduate Research Fellowship	Winter 2024
• CSE Department Outstanding Graduate Student Instructor Award	Fall 2023
• CSE Department Outstanding Graduate Student Instructor Award	Winter 2023
• Northrop Grumman BRAVO to our Stars (3x)	2021–2022
• FSTI Award for Excellence in Chemistry	Spring 2018
• TIDES Advanced Summer Research Fellowship	Summer 2017
• Engineering Honors Scholarship	2016–2020
• Polymathic Scholars Interdisciplinary Humanities and Natural Science Honors	2016–2020

## PUBLICATIONS

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- [1] A. Liu, X. Wang, **J. Sansom**, Y. Fu, J. Kim, S. Sohn, and H. Lee, “Interactive and Expressive Code-Augmented Planning with Large Language Models”, in *Submission*.
- [2] Y. Huang, **J. Sansom**, Z. Ma, F. Gervits, and J. Chai, “DriVLMe: Exploring Foundation Models as Autonomous Driving Agents That Perceive, Communicate, and Navigate”, in *IROS*, 2024.
- [3] Z. Ma, **J. Sansom**, R. Peng, and J. Chai, “Towards A Holistic Landscape of Situated Theory of Mind in Large Language Models”, in *Findings of EMNLP*, 2023.
- [4] E. Lejeune, A. Khang, **J. Sansom**, and M. Sacks, “FM-Track: A Fiducial Marker Tracking Software for Studying Cell Mechanics in a Three-Dimensional Environment”, in *SoftwareX 11*, 2020, p. 100 417.
- [5] A. Khang, A. Rodriguez, M. Schroeder, **J. Sansom**, E. Lejeune, and M. Sacks, “Quantifying Heart Valve Interstitial Cell Contractile State Using Highly Tunable Poly(Ethylene Glycol) Hydrogels”, in *Acta Biomaterialia 96*, 2019, pp. 354–367.

## INDUSTRY EXPERIENCE

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### LG AI Research

Ann Arbor, MI

Research Intern

2023–2024

- Crowdsourced more than 10,000 examples of people using the internet for AI model training
  - \* Created a Chromium extension for recording browser interactions and a server for hosting virtual machines
  - \* Automated task creation and quality checks of crowdsourced data

### Northrop Grumman

San Diego, CA

Systems Engineer (Technical Level II), Pathways Rotational Training Program

2020–2022

- Leveraged my expertise in the HW-, SW-, and algorithm-level architecture of a fielded, software-defined radio to:
  - \* Assist a cross-organizational team with the design and deployment of a novel DSP algorithm
  - \* Author and obtain customer funding for a proposal detailing improvements to a fielded DSP algorithm
- Created the AI Corporate Catalog, a company-wide database of AI/ML capabilities
- Led a small team in the design and deployment of a C++ unit testing infrastructure

### Ansys Government Initiatives (formerly Analytical Graphics Inc.)

Exton, PA

Corporate Systems Engineering Intern

Summer 2019

- Used Python to quantify the accuracy of orbital decay forecasts in STK, AGI's primary software offering
- Helped develop multiple simulations that modeled orbital dynamics, communications links, and terrain effects
- Outlined a strategy to bolster STK's collaborative capabilities and presented it to the senior development team

## TEACHING EXPERIENCE

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- **Graduate Student Instructor** at the University of Michigan (**Outstanding GSI Award**) Winter 2023  
*Introduction to Natural Language Processing (EECS 487)*
- **Graduate Student Instructor** at the University of Michigan (**Outstanding GSI Award**) Fall 2023  
*Introduction to Natural Language Processing (EECS 487)*

## PRESENTATIONS

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- **J. Sansom** “Investigating Methodology for Global Optimization,” presented at the College of Natural Sciences Undergraduate Research Forum. April 13th, 2018; Austin, TX. (**FSTI Award for Excellence in Chemistry**)

## SKILLS

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- **Languages:** Python, C++, JavaScript, HTML, MATLAB, Bash
- **Software Tools:** PyTorch, Jax, NLTK, Transformers, W&B, Scikit-Learn, NumPy, SciPy, Git, Docker, OpenMP, Selenium, Playwright, Flask

## EXTRACURRICULAR ACTIVITIES

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- Chair of Northrop Grumman Pathways Professional Development Committee 2021–2022  
*Planned and successfully launched a new technical mentorship program for early-career engineers*
- Volunteer at the Arc and the Rosedale School 2018–2019  
*Helped adults and children with cognitive disabilities develop life skills and provided constant positive feedback*
- Undergraduate Representative for the Society for Industrial and Applied Mathematics 2018–2019  
*Worked with leaders to offer membership and resources to the new undergraduate computational sciences program*

- Eagle Scout and Troop Guide in the Boy Scouts of America

2016

*Led a team of 30 to construct shelves for a homeless shelter. Taught younger scouts various scouting skills*