

EDUCATION

MILA Quebec AI Institute, University of Montreal • <i>PhD, Computer Science (Dr. Aishwarya Agrawal)</i>	May 2030
University of Oxford, Reuben College • <i>MSc, Mathematics and Foundations of Computer Science</i>	September 2026
Michigan State University, Honors College [GPA: 4.0/4.0] • <i>B. S., Computer Science with minors in Data Science, Cognitive Science, Computational Math</i> • <i>B.A., Mathematics</i>	May 2025
CEA Engineering Study abroad, Paris, France	May-June 2022

PUBLICATIONS AND PRESENTATIONS

- Sinha Sania**, Premsri Tanawan, & Kordjamshidi Parisa. (2025). Toward a Clearer Characterization of Neuro-Symbolic Frameworks: A Brief Comparative Analysis. *Conference on Neurosymbolic Learning and Reasoning*, pp. 179-217. PMLR. <https://openreview.net/forum?id=psXDX4Q8E5>
- Sinha Sania**, Wasit Aarham, Kim Won Seob, Kim Jongkyoo, & Yi Jiyeon. (2025). Fluorescent marker prediction for non-invasive optical imaging in bovine satellite cells using deep learning. *Frontiers in Artificial Intelligence*. <https://doi.org/10.3389/frai.2025.1577027>
- Sinha Sania**, Premsri Tanawan, & Kordjamshidi Parisa. (2024). A Survey on Compositional Learning of AI Models: Theoretical and Experimental Practices. *Transactions on Machine Learning Research*. <https://openreview.net/forum?id=BXDxwItNqQ>
- Brozowski Alexandra, Connor-Kuntz Hayden, Lewis Sanaye, **Sinha Sania**, Oh Jeewon, Weidmann Rebekka, Weaver Jonathan R., & Chopik William J. (2022). A test of the investment model among asexual individuals: The moderating role of attachment orientation. *Frontiers in Psychology*, Volume 13. <http://dx.doi.org/10.3389/fpsyg.2022.912978>

HONORS AND AWARDS

First Place, University Undergraduate Research and Arts Forum 2023 & 2025
Outstanding Senior Award 2025
Dean's Showcase of Stars EGRID Gold Award 2022-2025, College of Engineering
Engineering Undergraduate Student Service Award 2023-24
Honors Excellence Award, Cole Excellence Scholarship 2022

RESEARCH & INTERNSHIP

Research Assistant, Dr. Giuseppe de Giacomo, Oxford	March 2026-present
Research Assistant, Food AI, & Engineering Lab, MSU • Advisor: Dr. Jiyeon Yi, Biosystems & Agricultural Engineering • Developed post-processing method for image enhancement in fluorescence marker prediction in cell microscopy • Developed and benchmarked GAN model for noise resilience in image reconstruction of hyperspectral data	August 2023-present
Research Assistant, Heterogenous Learning & Reasoning Lab, MSU	2021-2025

Sania Sinha, sania.sinha@mila.quebec

- Advisor: Dr. Parisa Kordjamshidi, Computer Science and Engineering
- Surveyed compositional learning, combining cognitive influences and bridging gaps in interdisciplinary research
- Benchmarked empirically and created theoretical characterization of neuro-symbolic frameworks, including DeepProbLog, Scallop, DomiKnowS, LEFT

Software Engineering (Advanced Driver Assistance Systems), KPIT Technologies Inc. May- August 2025

- Manager: Ashwath K S, Director of Delivery for Autonomous Driving
- Created an open-source conversion from KITTI data format for NuScenes trajectory prediction devkit
- Documented, revised annotation schema, and advised on OpenLABEL 2.0 standard compliance

Product Engineering, Rocket Companies LLC May- August 2024

- Team Leader: Alex Hamilton, Director, Engineering
- Worked on creating multi-agent AI systems for delivering improved chat-based client experiences
- Leveraged technologies such as graphRAG, custom routing, and orchestration for multi-agent frameworks and integrating APIs & knowledge bases with agentic systems

Research Assistant, College of Human Medicine, MSU 2023-2024

- Advisor: Dr. Chi Chang, Office of Medical Education Research and Development
- Created an annotation schema and helped migration between annotation softwares
- Built data pipeline and transcription for an automated medical student clinical exam grading system using HuggingFace models

PROJECTS

- **FinTech Winner, SpartaHack 2024:** CardeB, a one-tap payment solution [Swift]
- **Global Nominee & Top 32 in Open Science Marketplace Challenge, NASA SpaceApps 2023:** GitLinked, A social media and collaboration platform for developers [TypeScript, Python]

TEACHING, LEADERSHIP & SERVICE

Ambassador, Oxford Mathematics Outreach, University of Oxford November 2025- present

Curriculum Admin, K12 Coding Outreach, Women in Engineering, MSU September 2022- 2025

- Designed coding curriculum for 6-12 graders leading to increase in program retention rate from 50% to 90%
- Reorganized office structure and improved workflow as a lead for a team of 60 mentors and ambassadors

Chief Advisor & ex-President, AI Club, MSU 2021- 2025

- Increased club participation from 100 to 250+ active members with better marketing and delivering new events
- Increased external sponsorship value to the club by 4x, securing partnerships with 5 industry leaders

Undergraduate Teaching Assistant, Machine Learning, MSU August- December 2024

- Tutored and supervised projects for a senior-level undergraduate class with 67 students
- Created material for weekly homework and graded homework, projects, and exams

Calculus Tutor, College of Engineering, MSU September 2022- April 2023

Volunteer [HC Impact], Honors College, MSU August- December 2021

- Volunteered at neighborhood centers, homeless shelters, food banks, etc.
- Participated in conversations with topic experts about relevant socio-economic issues and ways to tackle them