

SOPHIE MEI POOLE

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Education

University of Chicago | Chicago, IL

Master of Science, Data Science – Graduating 2027

Harvey Mudd College | Claremont, CA

Bachelor of Science, Joint Major: Computer Science and Mathematics – Graduated 2025

Master's Coursework

Fall Quarter

- Intro to Data Science
- Intro to Machine Learning and Neural Networks
- Statistical Applications

Winter Quarter

- Introduction to Data Systems and Data Design
- Natural Language Processing
- Modeling Democracy

Spring Quarter

- Data Interaction
- Responsible use of Data & Algorithms

Technical Skills: Programming Languages (Python, Java, JavaScript, MATLAB, C/ C++, C#, Racket, Prolog, R and SQL), VoteKit, Discrete Differential Geometry, Machine Learning, Computer Vision, Computer Graphics, Statistical Models, Artificial Intelligence (AI) and Data Analytics and Visualization

Work Experience

Monterey Bay Aquarium Research Institute (MBARI), Monterey, CA

Software Engineer, Harvey Mudd Clinic Program - August 2024 – May 2025

- Served as team lead for Spring 2025
- Maximized efficiency of underwater remotely operated vehicles for cutting-edge marine research technology
- Implemented software upgrades to improve user interface (UI) design and prototyping
- Enhanced visual tracking capabilities in 3D augmented reality environment, data collection and analysis

Physics of Soft Matter Lab (PoSMLab) – Elastic Movements in Nature, Robotics and Materials

Researcher, Harvey Mudd College (Dr. Mark Ilton) - May 2023 – August 2024

- Developed mathematical models for high speed, elastically driven systems using computational methods
- Investigated velocity and force of mantis shrimp strike to further develop high-impact micro-robotics
- Created and launched app in MATLAB that improved access to data and aids researchers in discerning trends. App currently utilized by Harvey Mudd researchers as well as research partners at Duke University

Anthozoan UCEs Project (NSF Funded Lab of Dr. Catherine McFadden)

Researcher, Harvey Mudd College – May 2022 – August 2022

- Quantified biodiversity and biogeography of Indo-Pacific octocoral using DNA barcode sequencing techniques
- Compiled biodiversity statistics to better understand the role of coral reefs in global ocean climate change
- Co-author presentation: **European Coral Reef Symposium (ECRS)** July 2024 | Presented findings at the **Southern California Conference for Undergraduate Research** May 2022

Published: Co-author: Biodiversity and Biogeography of Zooxanthellate Soft Corals Across the Indo-Pacific, **Nature Scientific Reports** Dr. Catherine S. McFadden, **Sophie Poole** et al. May 2025

Additional Experience

National Academy of Engineering (NAE) – September 2022 – August 2025

- Served on NAE steering committee **Pathways into Engineering** which oversees NAE STEM initiatives
- Designed and implemented “*Mission Possible*,” a STEM outreach program for underserved youth. Created video series about pioneers in STEM, led 10-week STEM workshop for 15+ students, raised funds to provide laptops
- Presented project to 200+ attendees at **National Academy of Engineering** award ceremony. Recognized with the **Society of Women Engineers Local Innovator Award and Presidents Gold Award**

Love Lab, University of California at Santa Barbara – May 2020 - Present

- Tracked endangered giant sea bass off the coast of California as a volunteer “citizen scientist”
- Collected data via underwater photographs identifying several previously unknown specimens and naming several fish, *Crush* and *Megabyte*, for the study. Avid scuba diver, PADI Advanced Open Water certified