

Sophie Mei Poole

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Education

Harvey Mudd College | Claremont, CA

Bachelor of Science, Joint Major: Computer Science and Mathematics (Graduation May 2025)

Relevant Coursework: Data Analytics and Visualization, Statistical Linear Models, Differential Equations, Discrete Differential Geometry, Computer Graphics, Experiments in Human Vision

Programming Languages: Python, Java, JavaScript, MATLAB, C/ C++, Racket, Prolog and R

Research & Employment

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

Harvey Mudd Clinic Program – August 2024 – May 2025

- Maximizing efficiency of ROV (Remotely Operated Vehicles) for cutting-edge marine research technology
- Implement software upgrades to improve User Interface (UI) design and prototyping
- Enhance Visual tracking capabilities in 3D augmented reality environment, data collection and analysis
- Present to team of scientists and engineers at MBARI; working with 6-person team

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
- Used computer vision to track and plot trajectory of biological elastic systems
- Created app in MATLAB that aids researchers in accessing data and discerning trends
- Presented findings weekly to 9-member research team and 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
- Presented findings at **Southern California Conference for Undergraduate Research**
- Co-authored presentation; **European Coral Reef Symposium (ECRS) 2024** in Naples, Italy | Publication pending

Leadership Experience

National Academy of Engineering (NAE) - July 2024 – August 2025

- Collegiate Advisor serving on NAE steering committee IDEEA (Inclusive, Diverse, and Equitable Engineering for All) which oversees NAE initiatives and programs for underserved youth

Women Engineers and Scientists of Tomorrow, Harvey Mudd College – April 2022 – April 2025

- Served on multiple panels with Society of Women Engineers (SWE) club members providing mentorship to high school girls interested in STEM

EngineerGirl Ambassador – September 2019 – May 2022

- Created, designed, and implemented **“Mission Possible: Girls in STEM,”** a STEM outreach program for middle school girls experiencing poverty. Raised funds to provide laptops to all participants
- Created video series about pioneering women in STEM, led 10-week STEM workshop with 15 students
- Presented EngineerGirl project to 200 attendees at **National Academy of Engineering** awards ceremony
- **Society of Women Engineers Local Innovator Award and Presidents Gold Award for Service**

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 and naming several fish for the study
- PADI Advanced open water certified scuba diver; CPR and AED certified