

### Contact Information

Phone (+1) 860 501-5562  
Email [hsu1@unh.newhaven.edu](mailto:hsu1@unh.newhaven.edu)  
[HangSu@mit.edu](mailto:HangSu@mit.edu)  
Website [HangChelseaSu.github.io/](https://HangChelseaSu.github.io/)

### Education

2019-2023 **Bachelor of Science, Mathematics & Physics Minor**, *College of Arts and Sciences*,  
University of New Haven.  
Dean's List (2019-Present), Presidential Scholarship (2019-2023).  
Major GPA: 4.00 Overall GPA: 4.00

### Research

2022 **Using Machine Learning to Catalog Accreted Stars in Gaia ESA DR3 Survey**,  
*Massachusetts Institute of Technology*.  
Advised by Prof. Lina Necib, MIT Kavli Institute for Astrophysics and Space Research.

2022 **A Functional Equation Motivated by the Tangent Function**, *University of New Haven*.  
Advised by Prof. Ramesh Sharma, Department of Mathematics and Physics.

2021-2022 **Atmospheric and Computational Chemistry**, *University of New Haven & Duke Kunshan University*.  
Advised by Prof. Dequan Xiao, Prof. Chong Qiu, Chemistry and Chemical Engineering Department.

2021-2022 **Can the Shape of Our Universe Explain the Dark Matter?**, *University of New Haven*.  
Advised by Prof. Nikodem Poplawski, Prof. Kevin Green, Department of Mathematics and Physics.

2019-2020 **Single-Atom Zinc Catalyst for Co-Production of Hydrogen and Fine Chemicals in Soluble Biomass Solution**, *University of New Haven*.  
Published paper: <https://doi.org/10.1016/j.apmate.2022.100058>  
Advised by Prof. Dequan Xiao, Chemistry and Chemical Engineering Department

### Publication

2022 **Single-Atom Zinc Catalyst for Co-Production of Hydrogen and Fine Chemicals in Soluble Biomass Solution**, Ma, J.; Li, X.; Li, Y.; Jiao, G.; Su, H.; Xiao, D.; Zhai, S.; Sun, R..  
Advanced Powder Materials 2022, 1 (4), 100058. [doi.org/10.1016/j.apmate.2022.100058](https://doi.org/10.1016/j.apmate.2022.100058)

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## Conferences & Talks

- 10/2022 **Gulf Coast Undergraduate Research Symposium**, *Rice University*.  
15 minutes slide presentation: "Using Machine Learning to Catalog Accreted Stars in Gaia ESA DR3 Survey."
- 8/2022 **Summer MKI Undergraduate Research Forum**, *MIT*.  
10 minutes of slide presentation: "Using Machine Learning to Catalog Accreted Stars in Gaia ESA DR3 Survey."
- 8/2022 **2022 MIT Summer Research Poster Session**, *MIT*.  
Poster presentation: "Using Machine Learning to Catalog Accreted Stars in Gaia ESA DR3 Survey."
- 4/2022 **National Conference on Undergraduate Research**, *Virtual*.  
12 minutes of slide presentation: "Dark Energy and Dark Matter as Five-Dimensional Stereographic Projection."
- 11/2021 **Sigma Xi Student Research Conference**, *Virtual*.  
Poster presentation: "Dark Energy and Dark Matter as Five-Dimensional Stereographic Projection."
- 10/2021 **Gulf Coast Undergraduate Research Symposium**, *Rice University*.  
15 minutes slide presentation: "Dark Energy and Dark Matter as Five-Dimensional Stereographic Projection."
- 10/2021 **Summer Undergraduate Research Fellowship Showcase**, *University of New Haven*.  
Video presentation: "Can the Shape of Our Universe Explain the Dark Matter?"
- 8/2021 **Summer Undergraduate Research Fellowship Presentation**, *Virtual*.  
15 minutes slide presentation: "Can the Shape of Our Universe Explain the Dark Matter?"

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## Awards & Certifications

- 2022 **Research Intern (Fall 2022)**, *Massachusetts Institute of Technology*.  
Granted research position directly funded by a MIT faculty member.
- 2022 **MIT Summer Research Program**, *Massachusetts Institute of Technology*.
- 2022 **Academic Excellence Award in Physics**, *University of New Haven*.  
Awarded to 1 student in the Department of Mathematics and Physics.
- 2022 **Academic Excellence Award in Mathematics**, *University of New Haven*.  
Awarded to 1 student in the Department of Mathematics and Physics.
- 2021 **Summer Undergraduate Research Fellowship (SURF) – McHale Fellow**, *University of New Haven*.  
Awarded to 3 students in the SURF program.
- 2021 **CRLA International Tutor Training Program Certification Level 1&2**, *University of New Haven*.
- 2019 **The Hector and Wanda Levesque Memorial Scholarship Award for Science**, *Academy of the Holy Family*.  
Awarded to 1 graduating senior.
- 2019 **Valedictorian**, *Academy of the Holy Family*.
- 2018 **Worcester Polytechnic Institute STEM Leadership Book Award**, *Academy of the Holy Family*.

- Awarded to 1 student in the school.
- 2018 **UCONN Avery Point Book Award**, *Academy of the Holy Family*.  
Awarded to 1 student in the school.
- 2016 **The 4th International Deutscher Irmeler – Klavierwettbewerb Piano Contest 1st Prize**.
- 2015 **China National Opera and Dance Drama Theater Piano Level 10/10**.
- 2013 **Chinese Dancers Association Level 9/10**.
- 2011 **Artwork Collection Certificate**, *Shenzhen Summer Universiade*.  
Artwork collected by Universiade athletes.

## Teaching

- 2020-2022 **Learning Assistant**, *University of New Haven*.  
Spring 2022 PHYS 2205 Electromagnetism/Optics with Laboratory  
Fall 2021 MATH 1118 Calculus II  
Spring 2021 MATH 1118 Calculus II  
Fall 2020 MATH 1118 Calculus II
- 2020-2022 **Undergraduate Peer Tutor**, *University of New Haven*.  
Tutored undergraduate classes in math, physics, chemistry, biology, and their labs.

## Community Outreach

- 6/2022 **Director & Panelist of 2022 Summer Undergraduate Research Fellowship Alumni Panel**, *University of New Haven*.  
Coordinated and hosted the Panel Discussion.  
Established a network of SURF alumni and shared experience with 2022 SURF participants.
- 4/2022 **Volunteer at the Undergraduate Open House**, *University of New Haven*.  
Represented the Department of Mathematics and Physics.  
Reached out to prospective students and parents about the program details.
- 3/2021 **Panelist at Courageous Conversations: The Rise in Anti-Asian Violence**, *University of New Haven*.  
Delegated Asian international students to speak up against violence against Asian communities.  
Responded and proposed new strategies to implement diversity and inclusion.
- 2021-2022 **President of Chinese Student and Scholar Association**, *University of New Haven*.  
Organized cultural events and maintained communication with the New York Chinese Consulate.  
Managed a budget of approximately 8,000 dollars and distributed COVID-19 resources to international students.
- 2018-2019 **Student Council President**, *Academy of the Holy Family*.  
Represented the student body at the school district and civic events and other meetings.  
Developed the agenda for and presided over the meetings of the Student Council.

## Computer Skills

Operating Systems Linux, macOS, Windows.

Languages Python, Jupyter Notebook, PyTorch Lightning, Bash, SQL, HTML, C, L<sup>A</sup>T<sub>E</sub>X.

Softwares Avogadro, Gaussian, Vienna Ab initio Simulation Package, Visual Studio Code, GitHub, GarageBand

## Languages

English Native Proficiency

Chinese Native Proficiency

Japanese Minimum Professional Proficiency, JLPT N1 (most advanced level)

## Interests

- Piano, Vocal Recording (YouTube Channel: [FelineClavicle](#))
- Swimming, Badminton, Basketball
- Asian Cooking