

Peiyang Song

Pasadena, CA | (820) 587-3320 | psong@caltech.edu | <https://peiyang-song.github.io>

EDUCATION

- ❑ **California Institute of Technology (Caltech)** Pasadena, CA
B.S. in Computer Science Sep. 2024—Present
- ❑ **University of California, Santa Barbara (UCSB)** Santa Barbara, CA
B.S. student in Computer Science, College of Creative Studies (CCS) Honors Sep. 2022—June 2024
Advisors: Prof. Richert Wang, Prof. Phill Conrad
GPA: 4.0/4.0, mostly A+

RESEARCH INTERESTS

Machine Learning • Natural Language Processing • Automated Reasoning • Neuro-Symbolic AI

PUBLICATIONS

- | | |
|--------------|--|
| Preprint | Temporal Activation and Real-Soft-Max Functions
<u>Peiyang Song</u> , Rhys Gretsches, Jeremy Lau, and Timothy Sherwood
<i>In conference submission</i> |
| Preprint | In-Context Learning May Not Elicit Trustworthy Reasoning: A-Not-B Errors in Pretrained Language Models
Pengrui Han*, <u>Peiyang Song</u> *, Haoifei Yu, Jiaxuan You (* Equal Contribution)
<i>ICML 2024 LLM-Cognition Workshop</i>
<i>In conference submission</i> |
| Preprint | Towards Large Language Models as Copilots for Theorem Proving in Lean
<u>Peiyang Song</u> , Kaiyu Yang, and Anima Anandkumar
<i>NeurIPS 2023 MATH-AI Workshop</i>
<i>In conference submission</i> |
| ASPLOS 2024 | Energy Efficient Convolution with Temporal Arithmetic
Rhys Gretsches, <u>Peiyang Song</u> , Advait Madhavan, Jeremy Lau, and Timothy Sherwood
<i>ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS), 2024</i> |
| NeurIPS 2023 | LeanDojo: Theorem Proving with Retrieval-Augmented Language Models
Kaiyu Yang, Aidan Swope, Alex Gu, Rahul Chalamala, <u>Peiyang Song</u> , Shixing Yu, Saad Godil, Ryan Prenger, and Anima Anandkumar.
<i>Neural Information Processing Systems (NeurIPS), 2023, Oral presentation</i> |

RESEARCH EXPERIENCES

- | | |
|--|--|
| <input type="checkbox"/> California Institute of Technology (Caltech)
<i>Research Fellow @ Anima AI+Science Lab</i>
Advisors: Prof. Anima Anandkumar (Caltech), Dr. Kaiyu Yang (Meta) | Pasadena, CA
Feb. 2022—Present |
| <input type="checkbox"/> University of California, Santa Barbara (UCSB)
<i>Researcher @ ArchLab</i>
Advisors: Prof. Tim Sherwood (UCSB), Dr. Jeremy Lau (Google) | Santa Barbara, CA
Nov. 2022—June 2024 |

ACADEMIC SERVICE

- ☐
- Reviewer**
- Neural Information Processing Systems (NeurIPS)
 - Neural Information Processing Systems (NeurIPS) MATH-AI Workshop
 - International Conference on Machine Learning (ICML) LLM-Cognition Workshop

AWARDS & HONORS

- | | |
|--|-----------|
| <input type="checkbox"/> Early Research Scholarship | Aug. 2023 |
| <input type="checkbox"/> Caltech SURF award | Apr. 2023 |
| <input type="checkbox"/> UCSB Creative Studies Honors | Sep. 2022 |

LANGUAGES

- **Programming Languages:** C++, Python, Lean, Java, C, PASCAL, OCaml, C#
- **Natural Languages:** English (TOEFL 117/120), Mandarin (Native)

TALKS

- | | |
|---|---|
| <ul style="list-style-type: none">➤ Towards Large Language Models as Copilots for Theorem Proving in Lean<ul style="list-style-type: none">• CCS Research & Creative Activities Conference (RACA-CON) 2023 Oral Presentation• Caltech SURF Seminar Day 2023 | <div>Nov. 2023</div> <div>Aug. 2023</div> |
|---|---|