

Peiyang Song

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

RESEARCH EXPERIENCES

- | | |
|---|--|
| <input type="checkbox"/> California Institute of Technology (Caltech)
<i>Research Fellow @ Anima AI+Science Lab</i>
Advisor: 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

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| <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

- **Towards Large Language Models as Copilots for Theorem Proving in Lean**
 - CCS Research & Creative Activities Conference (RACA-CON) 2023 Oral Presentation Nov. 2023
 - Caltech SURF Seminar Day 2023 Aug. 2023