




ELLIE Y. CHENG

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EDUCATION

MASSACHUSETTS INSTITUTE OF TECHNOLOGY 2022 - PRESENT
PH.D. IN COMPUTER SCIENCE
Advisor: Michael Carbin
Research Focus: Programming Systems for Machine Learning

UNIVERSITY OF CALIFORNIA, LOS ANGELES 2018 - 2022
B.S. IN COMPUTER SCIENCE AND ENGINEERING

HONORS AND AWARDS

COMPUTING RESEARCH ASSOCIATION (CRA) OUTSTANDING UNDERGRADUATE RESEARCHER AWARD HONORABLE MENTION 2022

INVITED TALKS

FLIP-HOISTING: A PROBABILISTIC PROGRAM OPTIMIZATION FOR EXACT INFERENCE 2021
THE INTERNATIONAL CONFERENCE ON PROBABILISTIC PROGRAMMING (PROBPROG)

CONFERENCE PUBLICATIONS

LEARNING TO KEEP A PROMISE: SCALING LANGUAGE MODEL DECODING 2025
PARALLELISM WITH LEARNED ASYNCHRONOUS DECODING
TIAN JIN*, ELLIE Y. CHENG*, ZACK ANKNER, NIKUNJ SAUNSHI, BLAKE M. ELIAS, AMIR YAZDANBAKHSH,
JONATHAN RAGAN-KELLEY, SUVINAY SUBRAMANIAN, MICHAEL CARBIN.
INTERNATIONAL CONFERENCE ON MACHINE LEARNING (ICML)
<https://arxiv.org/abs/2502.11517>

INFERENCE PLANS FOR HYBRID PARTICLE FILTERING 2025
ELLIE Y. CHENG, ERIC ATKINSON, GUILLAUME BAUDART, LOUIS MANDEL, MICHAEL CARBIN
PRINCIPLES OF PROGRAMMING LANGUAGES (POPL)
<https://arxiv.org/abs/2408.11283>

HOW CAN I EXPLAIN THIS TO YOU? AN EMPIRICAL STUDY OF DEEP NEURAL NETWORK EXPLANATION METHODS

2020

JEYA VIKRANTH JEYAKUMAR, JOSEPH NOOR, YU-HSI CHENG, LUIS GARCIA, AND MANI SRIVASTAVA
ADVANCES IN NEURAL INFORMATION PROCESSING SYSTEMS (NEURIPS)

NON-ARCHIVAL PUBLICATIONS

VERIFYING PERFORMANCE PROPERTIES OF PROBABILISTIC INFERENCE

2023

ERIC ATKINSON, ELLIE Y. CHENG, GUILLAUME BAUDART, LOUIS MANDEL, MICHAEL CARBIN
THE WORKSHOP ON VERIFICATION OF PROBABILISTIC PROGRAMS (VERIPROP)
<https://arxiv.org/abs/2307.07355>

FLIP-HOISTING: A PROBABILISTIC PROGRAM OPTIMIZATION FOR EXACT INFERENCE

2021

YU-HSI CHENG, STEVEN HOLTZEN, GUY VAN DEN BROECK, TODD MILLSTEIN
THE INTERNATIONAL CONFERENCE ON PROBABILISTIC PROGRAMMING (PROBPROG)
<https://elliecheng.com/publications/ChengPROBPROG21.pdf>
Extended draft: <https://arxiv.org/abs/2110.10284>

EXPERIENCE

BASIS AI

JUN - AUG 2024

RESEARCH INTERN

STRIPE

JUN - SEP 2022

SOFTWARE ENGINEERING INTERN

META PLATFORMS

SEP - DEC 2021

SOFTWARE ENGINEERING INTERN

META PLATFORMS

JUN - SEP 2020

SOFTWARE ENGINEERING INTERN

STATISTICAL AND RELATIONAL ARTIFICIAL INTELLIGENCE LAB, UCLA

JAN 2020 - JUN 2022

UNDERGRADUATE RESEARCH ASSISTANT

NETWORKED & EMBEDDED SYSTEMS LAB, UCLA

OCT 2019 - SEP 2021

UNDERGRADUATE RESEARCH ASSISTANT