# YU-HSI ELLIE CHENG

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ellieyhcheng.github.io

github.io/ellieyhcheng

## EDUCATION

**Massachusetts Institute of Technology**                      2022 - PRESENT
PHD IN COMPUTER SCIENCE

- Advisor: Michael Carbin
- Research Focus: Probabilistic Programming Languages

**University of California, Los Angeles**                      2018 - 2022
BS IN COMPUTER SCIENCE AND ENGINEERING

## HONORS AND AWARDS

**Computing Research Association (CRA) Outstanding Undergraduate Researcher Award**      2022
**Honorable Mention**

## INVITED TALKS

**flip-hoisting: A Probabilistic Program Optimization For Exact Inference**      2021
THE INTERNATIONAL CONFERENCE ON PROBABILISTIC PROGRAMMING (PROBPROG)

## CONFERENCE PUBLICATIONS

**How Can I Explain This To You? An Empirical Study of Deep Neural Network Explanation**      2020
**Methods**
JEYA VIKRANTH JEYAKUMAR, JOSEPH NOOR, YU-HSI CHENG, LUIS GARCIA, AND MANI SRIVASTAVA. ADVANCES IN
NEURAL INFORMATION PROCESSING SYSTEMS (NEURIPS).

# NON-ARCHIVAL PUBLICATIONS

### 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)

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# EXPERIENCE

### STRIPE                                                                                    JUN - SEP 2022
SOFTWARE ENGINEERING INTERN

- Built pipeline for explaining machine learning models used by Stripe using SHAP in Python


### META PLATFORMS                                                                           SEP - DEC 2021
SOFTWARE ENGINEERING INTERN

- Worked on AI infrastructure that serves features for machine learning models for various products, including Facebook Ads using Python and C++


### META PLATFORMS                                                                           JUN - SEP 2020
SOFTWARE ENGINEERING INTERN

- Worked on improving ranking systems and recommendation infrastructure for Facebook Events notifications aimed at growing the Events product using primarily Hack (PHP) and SQL


### STATISTICAL AND RELATIONAL ARTIFICIAL INTELLIGENCE LAB, UCLA             JAN 2020 - JUN 2022
UNDERGRADUATE RESEARCH ASSISTANT

- Advisors: Steven Holtzen, Guy Van den Broeck, Todd Millstein
- Researched optimizations and improvements for the probabilistic programming language Dice in OCaml based on traditional compiler optimizations to reduce program compilation size and inference runtime


### NETWORKED & EMBEDDED SYSTEMS LAB, UCLA                                   OCT 2019 - SEP 2021
UNDERGRADUATE RESEARCH ASSISTANT

- Advisors: Luis Garcia, Mani Srivastava
- Surveyed explainability methods (Anchor, LIME, SHAP, Grad-CAM++, saliency maps) to determine which is preferred by end-users as an explanation for Deep Neural Networks performing classification tasks in different data domains (text, image, audio, sensory)