

SEEWON CHOI

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EDUCATION

University of Pennsylvania

Ph.D. in Computer and Information Science

Advisor: Rajeev Alur

Aug 2023 - Present

Philadelphia, US

University of Cambridge

B.A. in Computer Science

Dissertation: *Encoding Representations of Propositional Logic*

Supervisor: Mateja Jamnik

Oct 2019 - June 2022

Cambridge, UK

RESEARCH STATEMENT

While AI models continue to improve in performance, they often lack essential properties for real-world deployment, such as interpretability and robustness. My research aims to bridge this gap by developing trustworthy models, with a particular focus on healthcare. I work on scaling neurosymbolic frameworks to complex real-world scenarios, which integrate neural learning with symbolic reasoning to leverage the strengths of both approaches. Currently, I apply these frameworks to the early diagnosis of critical conditions, ensuring that model predictions are grounded in clinical knowledge.

PREPRINTS & PUBLICATIONS

KardiaLM: A Foundation Model for ECG Comprehension

Neelay Velingker, **S Choi**, Mayank Keoliya, Alaia Solko-Breslin, Rajeev Alur, Mayur Naik, Eric Wong

Stable Prediction of Adverse Events in Medical Time-Series Data

S Choi^{*}, Mayank Keoliya^{*}, Rajeev Alur, Mayur Naik, Eric Wong

CTSketch: Compositional Tensor Sketching for Scalable Neurosymbolic Learning 📄 🔗

S Choi^{*}, Alaia Solko-Breslin^{*}, Rajeev Alur, Eric Wong

NeurIPS 2025

Data-efficient Learning with Black-box Programs 📄 🔗 🔗

Alaia Solko-Breslin, **S Choi**, Ziyang Li, Neelay Velingker, Rajeev Alur, Mayur Naik, Eric Wong

NeurIPS 2024

Generation of Visual Representations for Multi-Modal Mathematical Knowledge 📄 🔗 🔗

Lianlong Wu^{*}, **S Choi**^{*}, Daniel Raggi^{*}, Aaron Stockdill, Grecia Garcia Garcia, Fiorenzo Colarusso,

Peter C.H. Cheng, Mateja Jamnik

AAAI 2024 Demo

AWARDS

- Richard Foulke Day Memorial Fellowship (*University of Pennsylvania*, 2023)
- Rosemary Murray Scholarship (*University of Cambridge*, 2019-2022)

TEACHING EXPERIENCE

- TA, CIS 5200 Machine Learning (*University of Pennsylvania*, Fall 2025)