

# Caleb Schultz Kisby

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**Position:** 2023 Intern - Research Scientist/Engineer

Dear Adobe hiring team,

Hi, I'm Caleb, a 5<sup>th</sup> year PhD candidate at Indiana University. I specialize in integrating neural networks and symbolic reasoning (aka Neuro-Symbolic AI). I do both theoretical work (formally relating neural networks and logic) as well as more immediately applied work (developing hybrid neuro-symbolic systems). I'm excited to see that you are looking for PhD students to do research at Adobe, and I'm here to apply.

I have 6 years of experience (4 PhD + 2 undergrad) working on research projects and proof-of-concept prototypes. I've published and presented 3 papers in AI conferences (one in AAAI!), and I'm currently targeting KR for a fourth paper. During my PhD, I have had hands-on experience with: using Python and Tensorflow to develop supervised and reinforcement-learning systems; using Word2Vec for natural language processing; and also formally verifying program correctness in Agda and Lean. My most recent project is a Python suite (using Tensorflow) to both verify if a neural network satisfies P and to build neural networks satisfying P. (See the Projects on my resume for more details.)

Unlike most machine learning researchers, I have a particularly strong background in formal logic and proofs. In fact, I've spent much of my PhD proving soundness and completeness for both a natural language-inspired logic, and also a formal neuro-symbolic translation. (See the Publications on my resume for more details.)

If you are interested, I'm available for a phone or Zoom interview during normal business hours (8am–6pm, EST) — please email me at the address above to schedule a time.

Thank you for your consideration,

Caleb Schultz Kisby