

Research Proposal

March 14, 2022

I'm open to studying and researching on various topics in mathematics, philosophy, and computer science. In particular, I find these topics very intriguing:

Decidability

Are there universal ways to arrive at a statement's decidability or the minimal arithmetic system such that it's decidable?

Type Theory

How does recent developments of type theory like Homotopy Type Theory relate to established conventions like ZF? What does type theory provide in terms of proving power? How can mathematical research benefit from the perspective of such alternative theories?

Machine Learning in Formalized Mathematics

Human-friendly proof assistants like Lean, Coq, and Agda has been enabling increasingly large repositories of formalized mathematics. This makes it possible for machine learning algorithms to learn the art of theorem proving. It's exciting to see what machine learning can bring to the field of mathematical research.