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Research Field: Theoretical Computer Science

Key Words: Type Theory, Programming Languages

Present research:

My research area is theoretical computer science, especially, the theory of programming languages. The main target is the type theory.

The type theory developed in the studies of programming languages. Only after accompanied with programming languages, computers turn out to be usable tools. The grand theme of the type theory is to provide organization for designing programming languages.

The evolution of type theory was fueled by discoveries of connections to various mathematical theories. Among them, the Curry-Howard principle elucidates connections to mathematical logic. Also the relations to the category theory is fundamental.

Via these perspectives, mathematical machineries opened their ways for applications to computer science. Furthermore, we expect that computer theoretic views shed light on traditional mathematics.

Notice for the students

As applied science, various kinds of talents are needed in computer science. From engineering architectures to theoretical researches, there are wide spectra to fit the students' potentials.

Although the fields I can supervise are theoretical research areas only, it is strongly recommended to pursue a specific topic whatever it is, as cultivation toward the future harvest, while they are students.