JINYANG YAO

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EDUCATION

The University of British Columbia, Kelowna, BC, Canada **2017-Present**
Currently a fourth year undergraduate student. Honours in Computer Science, minor in Mathematics

PAST EXPERIENCES

- **2019 Summer:** Chongqing University HVAC department

  Participated the "Yangzi River area air conditioning and heating solution and its corresponding systems" research project. Developed a program to select building designs that satisfies certain multi-objective constraints.
  Designed and implemented the project's web platform with flask and react.

- **2020 -2021:** UBC computer science honor program.
  Using semi-supervised learning to assess programming assignments. Developed a method allows human intervention to guide the algorithm to improve the clustering result.

PERSONAL PROJECTS

cppparsec `github.com/ailrk/cppparsec`
A C++ monadic parser combinator inspired by Haskell's parsec library.

mstl `github.com/ailrk/markdowndb.macro`
A partial replication of the C++ STL, referenced multiple implementations and added some meta programming facilities.

lambda cube `github.com/ailrk/lambda-cube`
A set of langauges extended from the simply typed lambda calculus.

pogger `github.com/ailrk/pogger`
A partially R5S5 compliant scheme implementation in Haskell.

canvas-bot `github.com/ailrk/canvas-bot`
A command line client for canvas in Typescript.

SKILLS

- **Programming Language:** Mostly used: Haskell, C++, Python, Typescript. Familiar with: SML, Ocaml, Common lisp, Java.
- **Python: 4 years** Experienced with flask web framework and sqlalchemy database ORM. Familiar with traditional machine learning algorihtms and implement models with sklearn. Familiar with python concurrency model and meta programming technics.
- **C++: 3 years** Familiar with the C++ data model, template meta programming, generic programming and the implementation of the STL.
- **Haskell 2 years** Familiar with functional programming. Understand GHC compilation process and some GHC optimizations. Familiar with type level programming.
- **Typescript: 2 years:** Understand the structural typing system and some type level techniques. Familiar with V8 optimization, libuv and event loop system. Understand reactor pattern. Experienced with React and nodeJS.
- **Type theory:** Implemented languages on Lambda Cube.
- **Math:** Minor in Mathematics. Linear Programming, Dynamic system, Number Theory, Abstract Algebra and some applications
- **Language:** Have been living in **English** Speaking country for more than 3 years, received band 7 for IELTS in 2017. Native **Chinese** speaker. Learning **Japanese**.