JINYANG YAO

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EDUCATION

The University of British Columbia, Kelowna, BC, Canada **2017-2021**
Honours in Computer Science, minor in Mathematics. Average 85.9/100.

PAST EXPERIENCES

- **2019 - 2020:** Chongqing University HVAC department

  Participated in the "Yangzi River area air conditioning and heating solution and its corresponding systems" research project. Developed a program using NSGAII genetic algorithm to select the optimal set of building designs that satisfy multi-objective constraints.

  Designed and implemented the project's internal web platform. The platform collects, organizes, and displays data from temperature sensors installed across 5 provinces.

- **2020 - 2021:** UBC computer science honor program.
  Using semi-supervised learning technique to assess programming assignments. Developed an iterative method and the corresponding system that 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.

tml `github.com/ailrk/tml`

Template meta language. A ml style functional programming language that runs in C++ template.

pogger `github.com/ailrk/pogger`

A partially R5S5 compliant scheme implementation in Haskell.

SKILLS

- **Programming Language:** Mostly used: Haskell, C++, Python, Typescript. Worked with: C#, Java. Familiar with: Common lisp, Rust, Ocaml.
- **C++: 3 years** Familiar with the C++ memory model, template meta programming, generic programming and some implementation details of the STL.
- **Haskell 2 years** Familiar with functional programming. Understand GHC compilation process and some GHC optimizations. Familiar with type level programming.
- **Python: 5 years** Familiar with flask web framework, sqlalchemy, and traditional machine learning algorithms with sklearn.
- **Typescript: 2 years:** Understand the structural typing system and some type level techniques. Familiar with libuv and event loop system. Understand the reactor pattern. Familiar with React and nodeJS.
- **Compiler** Familiar with traditional compilation techniques, optimizations and some program analyses. Familiar with various parsing techniques.
- **Math:** Minor in Mathematics. Linear Programming, Dynamic system, Number Theory, Abstract Algebra and their applications in error correction.
- **Language:** Fluent in **English**. Native **Chinese** speaker. Learning **Japanese**.