

# Marisa Kirisame

## Education

2015–2019 **Bachelor**, *University of Washington*, Seattle.

## Experience

- 2015–2019 **PLSE**, *Seattle*, Undergraduate Researcher.  
Worked on TVM at junior/senior.  
Worked on Astraea and DeepDarkFantasy at sophomore.  
Worked on Cassius(<https://cassius.uwplse.org/>) and Verdi(<http://verdi.uwplse.org/>) at freshman.
- 2017 **Microsoft Research Asia**, *Beijing*, Summer Intern.  
Worked on Deep Learning (knowledge distillation) using Pytorch and Tensorflow.
- 2016 **Thoughtworks**, *Beijing*, Summer Intern.  
Designed and Worked on DeepDarkFantasy(DDF).

## Projects

- TVM Top 20 contributor. Contributed to the design of Relay, a higher order, differentiable IR. Implemented Algebraic Data Types, Automatic Differentiation, Reference, Pretty Printing, Ahead-Of-Time Compiler, Partial Evaluator, contributed to Type Inference.
- DDF A Higher order Deep Learning Framework in Haskell for differentiable programming, using Final Tagless and Template Haskell. 500 Github stars.
- Happy-Tree A polytypic decision tree in Haskell that work on any True-Sums-Of-Products
- Ordinary A small web game to teach programming. Used Functional Reactive Programming, Nix, Zipper, and GHCJS.
- PE Simply Typed Lambda Calculus with reference/product/sum with Bidirectional Type Checking, Partial Evaluation, Automatic Differentiation. Written in MetaOCaml so it can be compiled to OCaml.
- Astraea Apply equality saturation to CompCert, a verified C compiler in Coq.
- Prover An automated theorem prover for first order logic that use Gentzen's Sequent Calculus. Logic Formula represented as Generalized Algebraic Data Type using Template Metaprogramming in C++.
- AI Implemented multiple search algorithms in AI Modern Approach, Including A Star, Bidirectional Breath First Search, Constraint Satisfaction Programming with K Arch Consistency optimization. Heavily used Iterator Style and Boost to increase efficiency.

## Coursework

- Programming Languages, Deep Learning
- Operating Systems
- Advanced Computer Architecture
- Database
- Graduate Theoretical Computer Science
- Systems for Machine Learning