

Evan Li

I like (very!) contemporary jazz piano, video games and photography

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 in/hanchen-li/

 evanli.me

 [@Evanli1999](https://github.com/Evanli1999)

Skills

Languages: C++, C, SQL, Java, JavaScript, Scala, Python, MATLAB, Scheme

Tools: Boost, LAMP, Redis, BigTable, Git, Linux

Experience

Core Software Developer - IBM Canada Varicent

May-Aug 2018

- Implemented API Keys for **REST API (C#)** and **Web App (JavaScript)**
- Developed Federated Access controls to automatically configure new user account settings based on organization login privileges
- Designed a dashboard to schedule and display automatic model backups
- Designed and implemented individual model access controls (e.g. certain user roles, or users connected through SSH, IP whitelisting)
- Improved **SAML** protocol to enforce audience and lifespan assertions of IDP responses

Behavioural Team Member - WATonomous

Sep-Dec 2018

- Designed and implemented localized obstacle map to avoid object collisions using C++
- Developed waypoint processor to plan vehicle path to find waypoints on a map

Projects

Somewhat-Blue / Chess AI / Python (Tensorflow), C++, EC2

Jun-Aug 2018

- Implemented AlphaZero's Self-Play learning algorithm
- Trained a **Convolutional Neural Net** to evaluate board positions in order to suggest the moves that should be evaluated using **Monte-Carlo Tree Search**
- Reduced tree search time by **54%** using **Alpha-Beta pruning**

VM / Vim Clone / C++

Nov 2018

- Supports most of Vim's core features (e.g. motions, search, macros, repeat commands)
- Implemented **MVC pattern** to control input/output, state logic used **visitor pattern**

Scala!? / Scala Subset Compiler / Scala

Sep-Dec 2018

- Compiler for a typed subset of **Scala** to **MIPS assembly**
- Implemented **Lexer/Parser (CYK)**, **type safety** and **garbage collector (Cheney)**
- Features include **lexical scoping**, **closures** and **tail call** optimization

XiaoPix / PhotoResistor Camera/ C++

Dec 2016

- Camera made from a single photoresistor and two stepper motors
- Takes a 300x300 black and white image in under 5 minutes

Education

University of Waterloo

Bachelors of Computer Science, Honours, Co-op, 2022