### Objective

Admitwrite student adviser

### Education

The University of Texas at Austin
PhD in Software Engineering (GPA: 4.0/4.0)

The University of Texas at Austin Master of Science in Software Engineering (GPA: 3.75/4.0)

# **Beijing University of Technology**

Bachelor of Science in Computer Science (GPA: 3.88/4.0)

#### Experience

### Senior Software Engineer

Google

- Sept 2018 Present
- Sunnyvale, CA
- Design, implement and maintain the BuildQueue project that efficiently schedules all Google internal remote builds. The BuildQueue service prioritizes builds, predicts build costs and schedule builds to maximize build incrementality while keeping the build executor fully occupied as possible. The service schedules over 20 millions builds per day and supports tens of thousands developer's daily productivity. I lead many projects in the team and published our build service infrastructure at the top software engineering conference **ISSTA 2020**.
- Design, implement and maintain the **Build Target Batching Service** (BTBS) that splits a large number of targets into target batches such that building each batch of targets does not run out of memory or exceed the build deadline. BTBS is heavily used by the TAP presubmit and postsubmit services, the binary release services, compiler testing services, code coverage service, etc. I mainly lead the BTBS project and published our service at the top software engineering conference **ICSE 2021**.
- Worked with the Google Brain Evolution team (ereal@ and crazydonkey@) on two projects, i.e. AutoMLZero (recognition) and AutoMLHero (recognition). For the AutoMLZero project, I learned how to use evolution algorithms and basic math operations to search for a program that can solve regression or classification problems. For the AutoMLHero project, I learned how to search for a ML optimizer program that could give us a high fitness score for an arbitrary model.

# Graduate Research Assistant

The University of Texas at Austin

- Lead or collaborate with researchers on many software engineering research areas, including mutation testing, fault localization, automated program repair, defect prediction, regression test selection, program synthesis, symbolic execution, model checking and automated test generation.
- Apply machine learning to software engineering problems and vice versa. For example, we use linear regression models to predict which SAT solvers to use. We also apply symbolic execution to modify images that fool and test neural networks.
- See https://kaiyuanw.github.io for the full publication list.

# Google Skills

Languages: Java, Python, C/C++, SQL Frameworks: TFX, Spanner, Dremel, Flume, AppFrameworks, Boq Developer Tools: Blaze, Borg, Cider, Git, Google Cloud Platform, Emacs Libraries: TensorFlow, NumPy, Matplotlib, Jax

Aug. 2015 - Aug 2018 USA Aug. 2013 - May 2015 China Aug. 2009 - May 2013

USA

Aug 2013 – Aug 2018

Austin, TX