

Brett K. Saiki

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Mission Viejo, CA

Summary

- Excellent student with critical thinking skills and a passion for learning
- Engaged in research on number systems, programming languages, and rewriting systems
- Able to work well in a team as well as independently
- Looking for an opportunity to apply my experience and learning in industry

Education

University of Washington

Expected graduation date: June 2023

Computer Engineering

GPA: **3.48**

Capistrano Valley High School

2015 – 2019

GPA (unweighted): **3.90**

GPA (weighted): **4.45**

Saddleback College

Summer 2017, Summer 2018

GPA: **4.00**

Experience

UW, Paul G. Allen School of CSE — Seattle, WA

Undergraduate Research Assistant

December 2019 – present

- Advised by Zachary Tatlock (UW) and Pavel Panchekha (U. of Utah)
- Herbie: state-of-the-art floating-point accuracy improver
- FPBench: community repository of floating-point benchmarks and FPCore compilers and tools
- Ruler: tools for synthesizing rewrite rules in a particular domain
- Expanded Herbie to support multi-precision expressions and improve expressions using precision tuning
- Added compilers from FPCore to common languages in FPBench
- Wrote research papers, gave talks at conferences

State Compensation Insurance Fund — Santa Ana, CA

Summer Intern

June 2019 – August 2019

- Contacted medical providers of injured workers to obtain work status updates
- Compiled unpaid bills from medical providers in preparation for litigation
- Indexed digital documents and digitized physical claims
- Learned the lifecycle of an insurance claim

Publications

Rewrite Rule Inference Using Equality Saturation

Chandrakana Nandi, Max Willsey, Amy Zhu, Brett Saiki, et. al.

Object-Oriented Programming, Systems, Languages & Applications (OOPSLA) 2021

Combining Precision Tuning and Rewriting

Brett Saiki, Oliver Flatt, Chandrakana Nandi, Pavel Panchekha, Zachary Tatlock

IEEE Symposium on Computer Arithmetic (ARITH) 2021

Skills

Microsoft Word, Excel, PowerPoint
Google Docs, Sheets, Slides

C/C++, Java, Racket
Linux, Git