Abraham Miller

Software Engineer

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The only thing that will redeem mankind is cooperation.
– Bertrand Russell

Education

University of Washington, Seattle **September 2015 – March 2019**

BS/BA Double Degree, Computer Science and Philosophy
Completed 16 CSE Courses, 11 Intensive Writing Courses – 3.66 GPA

Relevant Skills From Coursework

My project-based academic path in Computer Science prepares me with knowledge of data structures, algorithms, machine learning, time and space complexity, OO and functional programming, Unix CLI; and the Java, C, C++, Python, Ruby, and JavaScript programming languages. My studies in Philosophy train me to think critically, express ideas rationally and concisely, and keep the big picture in mind.

Work Experience

Giving Tech Labs - Seattle, WA **September 2019 – Present**
Machine Learning Research Fellow
Create software tools and machine learning models with social and academic significance, focusing on the analysis of *suprasegmental speech sounds*, mainly using *Python, Tensorflow, and C*. This is the Artificial Intelligence for Public Interest fellowship program (AI4PI).

Ginkgo Bioworks - Boston, MA **June 2019 – September 2019**
Software Engineer Summer Intern
Add set of features to the laboratory automation and data managment system to create helpful abstraction barriers and improve researcher experience. Completed >40 tickets encompassing 4 distinct projects. The Ginkgo codebase is written in *React, Python, and Ruby on Rails*.

Impact Labs - New York City, NY **January 2019**
Software Engineer Fellow
Tech for social good national fellowship by Impact Labs. Study software engineering and entrepreneurship, and begin a novel social software project – see *Enfin* below. Brainstorm and critically analyze >200 project ideas before selecting one and creating an MVP.

Klavins Lab, UW - Seattle, WA **July 2017 – December 2018**
Software Engineer Research Assistant
Develop and maintain *Aquarium*, a holistic laboratory management system intended for synthetic biologists, made with *Ruby on Rails* and *Angular*. As well, programatically encode >50 unique laboratory procedures within a *Ruby DSL* to help researchers across >5 biology labs execute automatable, high-throughput experiments, and aid with extracting and processing data from these experiments using *Python*.

UW Center for Learning and Undergraduate Enrichment - Seattle, WA **March 2017 – June 2017**
University Logic Educator
Lead weekly class discussion sessions each with 10-40 attendents on elementary symbolic logic for students taking PHIL120 (Intro to logic). Topics taught include *functions, predicates, relations, quantifiers, soundness, completeness*, and *sets*.

Pipeline Program - Seattle, WA **January 2017 – March 2017, April 2019 - May 2019**
K-12 Educator
Create lesson plans and teach philosophy and genetics to 2nd graders and 9th/10th graders respectively as part of a UW college to highschool volunteer program.

Projects/Extracurriculars

Enfin: Environmental Finance Management **January 2019 – Present**
Fintech Webapp
Devise and implement application which evaluates a user's financial history to provide analysis of their carbon footprint. Additionally, provides personalized suggestions for reducing emissions and streamlines carbon offset donation. Created with *React*, *Express.js*, and the *Plaid API*.

Polymerase Chain Reaction Batching Optimizer **August 2018**
Ruby Gem for Biologists
Invent bottom-up clustering algorithm in *Ruby* for grouping together PCRs with similar reaction conditions so that they can be run in the same thermocycler. Exploits *gradient PCR* to maximize reactions per thermocycler. At the UW BIOFAB alone, >200 reactions per month are rendered more efficient by this program. In the best case, 96 reactions that ordinarily would need to be separately run can be batched into a single thermocycler. Created while working at Klavins Lab.

UW Toastmasters Member - Seattle, WA **September 2019 – Present**
Public Speaking and Leadership Club

Phi Beta Kappa Member **May 2017 – Present**
America's Oldest and Most Prestigious Academic Honor Society