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 prepares me with knowledge of *data structures, algorithms, machine learning, time and space complexity, OO and functional programming, OS design, Unix CLI; and the Java, C, C++, Python, Ruby, and JavaScript programming languages*.

Work Experience

- **Giving Tech Labs - Seattle, WA** **September 2019 – Present**
  Machine Learning Research Fellow
  As part of the AI4PI fellowship program, create tools and build machine learning models with social and academic significance, focused on the analysis of *suprasegmental speech sounds*.
- **Ginkgo Bioworks - Boston, MA** **June 2019 – September 2019**
  Software Engineer Summer Intern
  Add set of features to the laboratory automation and data managment system which improve user experience and help form an abstraction barrier that enables higher level workflow design than before. The Ginkgo codebase is written in *React, Python, and Ruby on Rails*.
- **Impact Labs - New York City, NY** **January 2019**
  Software Engineer Fellow
  Selective (<5%) tech for social good national fellowship by Impact Labs. Study software engineering and entrepreneurship, and begin a novel software project – see *Enfin* below.
- **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 laboratory procedures within a *Ruby DSL* to help researchers design 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 on elementary symbolic logic for students taking PHIL120 (Intro to logic). Topics 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 the carbon offset donation process. 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, over 200 reactions per month are rendered more efficient by this program. 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