

Abraham Miller

Software Engineer

📞 +1 509 995 9071 • ✉ abemill@uw.edu • 🌐 abemill.com

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 management 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, programmatically 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 now 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*