Joseph W. Cutler

New York, NY

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Education

- **Wesleyan University**, Middletown, CT. May 2021
  - **BA**, Double Major: *Computer Science* and *Mathematics*, GPA 3.88/4.00.
- **Trevor Day School**, New York, NY. June 2017
  - High School Diploma

Research

- *Denotational Recurrence Extraction for Amortized Analysis*, **Joseph W. Cutler**, Daniel R. Licata, and Norman Danner. Submitted.

Work Experience

- **University Research Fellow**, Wesleyan University Summer 2018, 2019
  Did research in cost semantics, working to extend prior work on automated recurrence extraction to deal with amortized analysis. Proved theorems using logical relations and techniques in semantics. Project was completed and a paper was submitted in October 2019.
- **Student Forum Leader**, Wesleyan University Spring 2018
  Lectured on Haskell, alongside a grad student who had designed the course. Covered the functor/applicative/monad hierarchy, monadic parsing, monad transformers, and more. The course also included guest lectures on category theory by Prof. James Lipton.
- **Course Assistant**, Wesleyan University Spring 2018 - Current
  Graded assignments, led tutor sessions, and aided with labs for the following classes:
  - COMP 212 - Computer Science II. (Spring 2018, Fall 2018, Spring 2019)
  - MATH 223 - Linear Algebra. (Fall 2019)
  - COMP 112 - Introduction To Programming. (Summer 2018)
  - WesMASS COMP 211 - Mini-Course Computer Science I. (Summer 2018)
- **Teaching Assistant**, Upperline School of Code, NYC August 2017
  Helped students with coding assignments focused on web development in Ruby, and advanced frontend techniques.
- **Software Development Intern**, Flatiron School, New York, NY: Summer 2016/17, Winter 2018
  Worked on Flatiron School's online learning platform, Learn.co.
  - Optimized IDE usage monitor by writing highly parallel Elixir code. (Winter 2018)
  - Built a usage monitoring system for Learn.co's proprietary IDE. Fixed rendering problems with the frontend. (June - July 2017)
  - Built a system that automatically categorizes issue tickets with Python. Improved internal student progress analytics with ReactJS. (Summer 2016)

- **Teaching Assistant**, Flatiron School, New York, NY Fall 2014 - Summer 2015
  Served as a teaching assistant for Flatiron School's pre-college program. Taught web development with Ruby, along with basic frontend. Courses ran on weekends during the school year, and weekdays during the summer.

Awards

- *Robertson Prize*, Awarded for excellence in mathematics to a sophomore (2019)
- *Best Project*, Wesleyan University Datafest (April 2019)

Attended

- *Cornell, Maryland, Max Planck Pre-doctoral Research School*, Saarbrücken, Germany (August 2019)
- *Oregon Programming Languages Summer School*, Eugene, OR (June 2019)
  with funding from Prof. Licata

Coursework Highlights

- CS: Computer Science II, Algorithms, Implementation of Programming Languages.
- Math: Abstract Algebra, Abstract Algebra II, Linear Algebra, Discrete Math, Error-Correcting Codes, Multivariable Calculus
- Other: Philosophical Logic

Skills

- Programming: Functional programming (Standard ML, Haskell), web development (Ruby, Rails, JavaScript, Frontend MVC Frameworks), LaTeX, Lower level languages (C, C++).
- Other: Unix, Git, and Vim. Beginner knowledge of hobby electronics and Arduino. Conversant in data science methods - familiar with R and related tools.