# Evan Hubinger

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EDUCATION Harvey Mudd College, Claremont, CA Expected Graduation: May 2019

B.S. in Mathematics and Computer Science GPA: 3.856 (Dean's List)

The College Preparatory School, Oakland, CA Graduated: May 2015

Programming Expert Proficient Knowledgeable

LANGUAGES Python, Coconut Go, JavaScript, C++, Haskell, Cython R, Java, MATLAB, Mathematica

Summary Four summers of professional software engineering experience at Google, Yelp, and Ripple. Author of Undebt

and the Coconut programming language, which together have over 2,500 stars on GitHub. Presented on Coconut at PyCon 2017 and was interviewed on Coconut for TalkPython, Podcast.\_init\_\_, and Functional

Geekery. Dean's list student majoring in mathematics and computer science at Harvey Mudd College.

WORK Computer Science Grader and Tutor
EXPERIENCE Harvey Mudd College, Claremont, CA

• Graded and tutored Computability and Logic, Data Structures and Program Development, Principles and

Practices of Computer Science, and Computer Science for Insight.

Site Reliability Engineering Intern Google, Mountain View, CA

• Worked as a Launch Coordination Engineer (LCE) developing the software Google uses to perform production readiness reviews of new product launches.

• Revamped the custom domain-specific language built by the LCE team to automate launch reviews.

Software Engineering Intern Yelp, San Francisco, CA

June – August 2016

May – August 2017

January 2016 – Present

• Primary author of Undebt, an open-source static code analysis tool for massive automated code refactoring with over 1,400 stars on GitHub.

• Wrote a blog post on Undebt (link below), which proved to be Yelp's most popular blog post to date and was featured on the front page of Hacker News.

https://engineeringblog.yelp.com/2016/08/undebt-how-we-refactored-3-million-lines-of-code.html

• Fixed errors in Yelp's configuration management that had previously taken down yelp.com.

• Rewrote Yelp's system for running large data processing operations in Elastic Map Reduce.

Software Engineering Intern Ripple, San Francisco, CA

June – August 2014; June – August 2015

- Worked on designing Interledger, a trustless system for cross-currency transactions between arbitrary agents.
- Wrote a tool to do cryptographically secure generation of wallets for financial institutions.
- Contributed significant improvements to the compilation/build process of the open-source RippleD project.

Personal Projects

# The Coconut Programming Language

October 2014 – Present

http://coconut-lang.org

- Created the Coconut programming language, a novel functional programming language that compiles to any Python version. Supports pattern-matching, algebraic data types, TRE/TCO, and much more.
- Coconut has been viewed over 50,000 times; has over 1,100 stars on GitHub; has been shown on the front page of Hacker News, r/Python, and r/Programming; and has been featured on InfoWorld.com and Pointer.io.
- Presented on Coconut at PyCon 2017 (see https://us.pycon.org/2017/schedule/presentation/56).
- Was interviewed on Coconut for TalkPython, Podcast.\_init\_, and Functional Geekery.

Blackboard September 2017 – Present

https://github.com/evhub/blackboard

Developed a universal black box optimization framework for tuning hyperparameters. Written in Coconut.

cPyparsing July 2017

https://github.com/evhub/cpyparsing

Reimplemented PyParsing in Cython to achieve  $\approx 30\%$  better performance for Coconut and Undebt.

## Cards Against Humanity

July 2014 - May 2017

https://github.com/evhub/cards-against-humanity

Developed a program for playing Cards Against Humanity with custom cards over IRC. Written in Coconut.

**PyProver** March 2017

https://github.com/evhub/pyprover

Developed a library for resolution theorem proving in first-order predicate logic. Written in Coconut.

DeT<sub>E</sub>XiPi October 2015

Hackathon project to laod DeT<sub>F</sub>Xify onto a Raspberry Pi, connect it to a computer, draw symbols on it, and have it type out the LATEX commands for those symbols on the computer.

#### Discrete Wavelet Transform Steganography

April – May 2015

https://github.com/evhub/steganography

Developed a program to perform discrete wavelet transform image steganography. Written in Coconut.

#### Iterated Recursive Prisoner's Dilemma Simulator

April 2015

https://github.com/evhub/prisoner

Developed a library for performing and competing in iterated prisoner's dilemma competitions in which the competing programs can simulate the opposing programs. Written in Coconut.

#### The Rabbit Programming Language

April – December 2014

https://github.com/evhub/rabbit

Created the Rabbit programming language, a purely functional, interpreted, dynamically-typed scripting language built on top of Python. Wrote a technical paper describing the language.

OPEN SOURCE Contribu-TIONS

**Pre-Commit** Fixed an issue that prevented installing pre-commit on Windows machines. July 2017 Conda (of Anaconda) Added support for advanced PEP 496 packaging features. May 2017 Python Typeshed Added type annotations for the future\_builtins module. October 2016 Jupyter (formerly IPython) Added support for custom syntax highlighting. July 2016 StaticConf Improved resiliency in the event of missing data. September 2016 **PyParsing** Fixed numerous issues including Unicode support and PyPy compatibility. November 2015

Relevant Courses

Machine Learning Fall 2017 **Neural Networks** Fall 2017 Abstract Algebra Fall 2017 Computability and Logic Spring 2017 Mathematical Analysis Spring 2017 Independent Study in Computer Science Fall 2016 • Worked directly with Professor Christopher Stone on Coconut development and research.

Image Processing and Object Recognition Fall 2016 Advanced Differential Equations and Linear Algebra Summer 2016 Summer 2016 Multivariable Calculus Discrete Mathematics Spring 2016

Data Structures and Program Development

Fall 2015

OTHER ACTIVITIES AND AWARDS

## Harvey Mudd Physics Department Rojansky Writing Award Winner

May 2017

http://evhub.github.io/papers/everett.pdf

Awarded for the technical writing in my paper Multiple Worlds, One Universal Wave Function (link above).

Harvey Mudd Effective Altruism Club Leader (2017) — Effective Altruism Global Attendee (2017) — World Wide Web Consortium Interledger Payments Community Group Member (2016) — National Forensics League Honor Society Outstanding Distinction (2015) — National Policy Debate Tournament of Champions (2014, 2015) — East Bay Debate League Assistant Tournament Director (2013 – 2015) — College Prep Computer Science Club Leader (2013 - 2015) — National AP Scholar (2015) — National Latin Examination Summa Cum Laude (2014) — National Merit Commended Scholar (2014) — International Mathematics and Verbal Talent Search High Honors (2010)