

Kevin Lui Ph.D.

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Citizenship: USA

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🌐: <https://kevinlui.org/pages/code>

📍: Seattle, WA

TECHNICAL SKILLS

- Python, Git, SQL, Bash, C++, MATLAB, Cython

SELECT PERSONAL PROJECTS

- **langclass**: A model for determining the programming language from its source code. Model uses feature hashing of character-level 2-grams followed by a gradient boosting classifier. Live-version deployed on AWS in a Docker container running Flask/Waitress. See <http://langclass.kevinlui.org>.
- **caleb**: Python package that helps with Latex citation by automatically retrieving bibliographic information from publicly available online sources. Used travis for CI, pytest for testing, and poetry for dependency management. See <https://github.com/kevinywlui/caleb>
- **zlong_alert.zsh**: Zsh plugin for alerting you upon the completion of a long-running command. See https://github.com/kevinywlui/zlong_alert.zsh

APPLIED COURSEWORK

- **Instructor/TA/Grader**: Linear Algebra, Operation Research, Calculus
- **Graduate**: Logic in CS, Game Theory
- **Undergraduate**: Data Structures and Algorithms, Cryptography, Computer Theorem Proving, Probability, Statistics

EXPERIENCE

- **University of Washington** Seattle, WA
Researcher in Computational Number Theory Sep. 2014 — Jun. 2019
 - **Overview**: Thesis research centered around creating and implementing algorithms in number theory. Created polynomial-time algorithms for computing invariant where existing methods were computationally infeasible or non-existent.
 - **Technical skills used**: Implemented algorithms using thousands of lines of Python. Invariants were computed in parallel on a 24-core server and stored in a PostgreSQL database.
 - **Link to thesis**: <https://kevinlui.org/pages/thesis>
- **Sagemath Open Source Project** Online
Volunteer Developer Jun. 2016 — Present
 - **Overview**: Active contributor and user of Sagemath which is a Python mathematics package, similar to scipy, suitable for research-level number theory computations. See <https://www.sagemath.org/>
 - **Contribution stats**: Authored 25 tickets, 19 of which has been accepted. Reviewed 10 tickets. Thousands of Python lines added.
 - **UW Sagemath Seminar**: Organized a seminar that helped 6 math graduate students make their first open-source contribution!
 - **Link to code contributions and code reviews**: <https://kevinlui.org/pages/code#sagemath>
- **Google Summer of Code - Sagemath** Online
Student Developer Summer 2016
 - **Overview**: Implemented number theory algorithms in Python to help close feature gap between Sagemath and its closed-source competitor MAGMA.
 - **Outcome**: This code has been merged into the master branch <https://trac.sagemath.org/ticket/21496> and is the foundation for my Ph.D. thesis work.
- **UC Santa Barbara** Santa Barbara, CA
Undergraduate Summer Researcher Summer 2012
 - **Overview**: Derived a parametric model for determining a consensus given a group of experts' rankings on a set of alternatives.
 - **Role**: Wrote MATLAB code to solve the LP problem derived in the paper. Worked closely with faculty mentor to develop the model.
 - **Outcome**: Published: <https://www.sciencedirect.com/science/article/pii/S0165011413003308>

EDUCATION

- **University of Washington, Seattle** Seattle, WA
Ph.D. in Mathematics specializing in Computational Number Theory - 3.75 GPA June 2019
- **University of California, Santa Barbara** Santa Barbara, CA
Bachelors in Mathematics - 3.8 GPA June 2014