

Kevin Lui Ph.D.

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Citizenship: USA

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🌐: <https://kevinlui.org/pages/code>

📖: Seattle, WA (Open to west coast positions)

TECHNICAL SKILLS

- **Fluent in:** Python, Git
- **Prior projects using:** SQL, Bash, C++, MATLAB, Cython, Numpy

SELECT PERSONAL PROJECTS

- **langclass:** A model for determining the programming language from its source code. Model uses feature hashing of n-grams followed by a gradient boosting tree classifier. Live-version deployed on AWS in a Docker container running Flask/Waitress. See <http://langclass.kevinlui.org> and <https://github.com/kevinywlui/langclass>.
- **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>

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 invariants 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 May 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 accepted. Reviewed 10 tickets. Thousands of Python lines added.
 - **UW Sagemath Seminar Organizer:** 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 May 2016 — Aug. 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 Jun. 2012 — Aug. 2012
 - **Overview:** Derived a parametric model for determining a consensus given a group of experts' rankings.
 - **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 Sep. 2014 — Jun. 2019
- **University of California, Santa Barbara** Santa Barbara, CA
Bachelors in Mathematics Sep. 2010 — Jun. 2014