

Joyce Zhu

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Software Development Qualifications

- **Programming Languages and Tools:** Proficiency in Python, C, Java, bash scripting, and git; experience with SQL, SQLAlchemy ORM for Python, HTML/CSS/JavaScript, OCaml, Scheme, and Prolog.
- Knowledge and capacity to learn evidenced by success in both software development internships and academic research.

Education

UNIVERSITY OF ROCHESTER

Bachelor of Science in Computer Science; Bachelor of Arts in Music

ROCHESTER, NY

Expected May 2017

- **GPA of 3.97** (out of 4.0) and Dean's List 6/6 semesters.
- Recipient of Wilder Trustee and National Merit Scholarships and 2014 Iota Book Award.
- Fall 2015: Head teaching assistant for Computation and Formal Systems (CSC 173).
- 2014-2015 academic year: Volunteer peer tutor for the Computer Science Undergraduate Council.

Computer Science Courses and Projects

UNIVERSITY OF ROCHESTER

Database Systems, Computer Security Foundations

ROCHESTER, NY

Spring 2016

Computational Models and Limitations, Operating Systems, Web Programming

Selected Past Courses

- **C:** concurrent web proxy server capable of handling plain text, binary data, and chunked transfer encoding.
- **Java:** concordance (hash table) of the frequency of words and their locations in Shakespeare's sonnets.
- **Prolog:** grammar parser and first order logic translator for a basic subset of English.
- **Python, JavaScript, HTML, CSS:** CRUD web application for children to learn basic programming principles.

Software Development and Programming Experience

edX

CAMBRIDGE, MA

Software Engineering Intern

Summer 2016

- Working with third parties to develop features for open edX, edX's open source software initiative.

PIXABILITY, INC.

BOSTON, MA

Python Software Engineering Intern

May 2015–April 2016

- Designed and implemented JSON-based query language for users to create query filters of arbitrary complexity when sending HTTP requests to exposed endpoints to retrieve a subset of records from a MySQL database.
- Extended exposed endpoints' sorting capabilities to allow users to sort on any computed metric; previously, users could only sort on a restricted subset of metrics corresponding with existing database column names.

UNIVERSITY OF ROCHESTER

ROCHESTER, NY

Undergraduate Research Assistant, Lab of Prof. Philip Guo

January–December 2015

- September–December 2015: Performed an empirical study of the quality of instructional programming videos on YouTube and trends in the instructors' strategies for presenting programming concepts to their audiences.
- January–May 2015: Wrote Python scripts to interface with a SQLite database and extract data about trends in discussions on the forums for a popular MOOC introductory computer science course offered by MIT on the edX platform.

HARVARD UNIVERSITY, SCHOOL OF ENGINEERING AND APPLIED SCIENCES

CAMBRIDGE, MA

Programming Intern

Summer 2014

- Wrote bash scripts to automatize job generation and submission to a high-performance computing cluster and shell scripting crash course for scientists moderately familiar with Linux to help future researchers modify my scripts; user guide and some of my scripts available for download at <http://bertoldi.seas.harvard.edu/downloads>.

CASA SYSTEMS, INC.

ANDOVER, MA

Software Development Intern

Summer 2012

- Expanded capabilities of an existing video streaming program written in C to stream up to 1000 simultaneous sessions for both IP unicast and multicast applications.

Publications

- **Joyce Zhu, Jeremy Warner, Mitchell Gordon, Jeffery White, Renan Zanelatto, Philip J. Guo. Toward a Domain-Specific Visual Discussion Forum for Learning Computer Programming: An Empirical Study of a Popular MOOC Forum. *IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC)*, Oct 2015.**