

Joyce Zhu

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Software Development Qualifications

- **Programming Languages and Tools:** Proficiency in Python, C, Java, bash scripting, and git; experience with Django, SQL, Backbone.js, SQLAlchemy and Django ORMs 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.

Software Development and Programming Experience

edX CAMBRIDGE, MA
Software Engineering Intern Summer 2016

- Improved user payment experience by migrating checkout cancel, error, and receipt endpoints from monolithic Open edX platform to independently-deployed ecommerce service and redesigning receipt page to reflect additional ecommerce features.

GOOGLE

CodeU Program Participant March-August 2016

- Implemented Redis-backed indexer, crawler, and command line-based search mechanism for a subset of Wikipedia.

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

- 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 video streamer to stream up to 1000 simultaneous sessions for IP unicast and multicast applications.

Education

UNIVERSITY OF ROCHESTER

ROCHESTER, NY

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

May 2017

- **GPA of 3.95** (out of 4.0), magna cum laude with highest distinction, Dean's List all semesters.
- Recipient of 2016 Robert L. Wells Prize, 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

ROCHESTER, NY

Design and Analysis of Efficient Algorithms

Fall 2016

Database Systems, Operating Systems, Web Programming

Selected Past Courses

- **C:** concurrent web proxy server capable of handling plain text, binary data, and chunked transfer encoding.
- **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.

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.**