

# luisperez

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## contact

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## technical toolbox

♥ OCaml  
Python, C, Java, R  
PHP \MySQL, Django  
Javascript (jQuery, D3)  
CSS3 & HTML5  
L<sup>A</sup>T<sub>E</sub>X, MATLAB,  
Mathematica

## web development

actonadream.org  
lperez.site44.com  
harvarddiscuss.com

(on-line presence)  
luisperez@college  
fb://kandluis  
lkin://luisperez  
git://kandluis  
@lui\_instinct

## operating systems

Windows 8/7/Vista/XP,  
Linux (Ubuntu,Fedora)

## languages

english - proficient  
spanish - fluent  
french - conversational

## education

### HARVARD UNIVERSITY

Cambridge, Massachusetts (August 2012–Present)

A.B in Computer Science/Mathematics. May 2016 | **GPA:** 3.96/4.0 | **Concentration GPA:** 4.0/4.0  
Awards: Detur Prize Winner, John Harvard Scholar

Relevant Coursework: Advanced Data Structures and Algorithms, Systems Programming and Machine Organization, Theory of Computation, Intro to Computer Science (I & II)  
Commit 16 hours per week to Computer Science/Mathematics Teaching Fellowship.

### STEPHEN F. AUSTIN STATE UNIVERSITY

Nacogdoches, Texas (August 2011–May 2012)

Visiting Student.

Relevant Coursework: Calculus I, U.S. Government/History

**Overall GPA:** 4.0

### NACOGDOCHES HIGH SCHOOL

Nacogdoches, Texas (August 2008–May 2012)

Graduated valedictorian with high honors. **GPA:** 106.56 | **SAT:** M 790, R 800, W 800

French Club President, National Merit Scholar Finalist, MUN Security Council Rep., AP Scholar

## developer experience

### INSTITUTE FOR QUANTITATIVE SOCIAL SCIENCES

Cambridge, Massachusetts (August 2014–Present)

**Developer:** Implemented intelligent data exploration portal for Dataverse. Designed data exploration algorithms and visualizations using Python (pandas) and Vincent/D3. Interfaced with Dataverse API for access to millions of research datasets.

### HARVARD FOREST

Petersham, Massachusetts (May 2014–August 2014)

**Research Assistant:** Designed and developed data provenance collection library for the R scripting environment. Improved data derivation graph visualizations in Java. Created testing suites for software with Apache Ant/R. Presented software demo to research scientists.

### WYSS INSTITUTE

Cambridge, Massachusetts (May 2013–August 2013)

**Research Assistant:** Led implementation of Python physics-based simulation designed to explore decentralized algorithms for collective construction of complex structures. Interfaced with structural analysis program using PyWin32. Presented results to group of peers and professional researchers.

## leadership experience

### SCHOOL OF ENGINEERING AND APPLIED SCIENCES

Cambridge, Massachusetts (August 2013 - Present)

**Teaching Fellow and Course Assistant:** Taught class of 20 students to program in C, PHP, JavaScript and SQL, and introduced object-oriented concepts. Held office hours for all course students (700). Graded problem sets and exams.

### HARVARD MATHEMATICS DEPARTMENT

Cambridge, Massachusetts (August 2013–Present)

**Course Assistant:** Taught classes of 30 undergraduates covering introductory linear algebra and calculus. Maintained weekly office hours and problem-solving sessions. Graded assignments.

### ACT ON A DREAM AT HARVARD COLLEGE

Cambridge, Massachusetts (August 2012–Present)

**Director of Public Outreach:** Maintained Act On A Dream, a site dedicated to sharing valuable resources with undocumented students @ Harvard and their allies. Managed communication with national and local groups as well as organizing educational events.

### THE HARVARD CRIMSON

Cambridge, Massachusetts (January 2013–Present)

**Technology Associate:** Maintained The Harvard Crimson website, along with HighRise advertisement database. Utilized Django with administrative interface hosted on Amazon SW3. Heroku development server and git version control.

## **BUREAU OF STUDY COUNCIL**

Cambridge, Massachusetts (January 2013 – Present)

**OPT Tutor:** Tutored students in a varied array of mathematical subjects covering classes from Single Variable Pre-Calculus to Multi-variable Calculus (Math 21a). Topics included coordinate transformations, multiple integrals, Stokes' Theorem, Green's Theorem, and Divergence Theorem.

## **ALLELUIA HILLS RANCH**

Nacogdoches, Texas (August 2010–August 2012)

**Ranch Hand:** Maintained upkeep of ranch. Fed horses, watered, mowed, cleaned debris, and performed other jobs as necessary.

## **awards**

### **Detour Book Prize**

Harvard Faculty (Fall 2013, Fall 2014)

Awarder to sophomores/juniors who have attained very high academic standing at the end of their freshman/sophomore year.

### **John Harvard Scholar**

Harvard College (Fall 2013, Fall 2014)

Awarded to students in the top 5% of their class.

### **AP Scholar with Distinction**

CollegeBoard (Spring 2012)

Awarded to student with four or more passing AP Scores.

### **Outstanding Senior Award**

Nacogdoches High School (Spring 2012)

Awarded to best student in graduating class.

### **National Laureat Certificate**

National French Contest (Spring 2011)

Awarded to top 10 in National French Contest.

### **Placed in IB Biology Examination**

Stephen F. Austin State University (Fall 2009)

Awarded for 3rd Place.

## **personal projects**

### **Automatic Mailing System**

Pet Project, Summer Internship (Summer 2014)

Implementation of Edit Distance Dynamic programming algorithm for auto-email program.

### **Quantum Tunneling - MATLAB**

PS10 - Quantum Chemistry (December 14, 2013)

MatLab simulation for transmittance probability of particle through barrier, with varying conditions.

### **Simplex Algorithm Implementation - OCaml**

Final Project, Computer Science 51 (Spring 2013)

Simplex algorithm in ML with arbitrary precision floats, custom matrix library, and unsolvable/unbounded solution identification.

### **Harvard Discuss Website - JavaScript, HTML/CSS, SQL, PHP**

Final Project, Computer Science 50 (Fall 2012)

Created Harvard Discuss, a website focused on encouraging student collaboration through on-line discussion forums for individual classes and sections. Used Official Harvard Course Data to create individual sub-forums for each course and provide detail.

## **interests**

data analysis, mathematics, philosophy, foosball, soccer, science fiction video production, running, poetry, company profiling, community organizing, robotics, machine learning