# Louis Rassaby

10 Pinkham Rd. | Medford, MA 02155
(406) 600-6561 | louis.rassaby@tufts.edu
lrassaby.github.io | www.linkedin.com/in/lrassaby

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Software engineer with international and Fortune 50 work experience and knowledge of machine structure and architecture, programming languages, data science, and development across web stacks.

## Education

**Tufts University** – Medford, MA
Bachelor of Sciences, Computer Science, Minor: Economics – December 2014
G.P.A. 3.93, Dean's List 6/6 semesters, National Merit Scholar

## Professional Skills, Languages & Techniques

**Primary languages:** C, C++, JavaScript, Python
**Other languages:** Java, C#, OpenGL & GLSL, Processing, MongoDB, SQL, Ext.js, Node.js, LaTeX, academic languages
**Coding tools:** Vim, Valgrind, GDB/DDD, Git, SVN, Sencha Architect, Visual Studio, Virtualbox

## Notable Projects

**Phantom Echoes:** Designed and built music adventure game using the Echo Nest API. Game generated landscapes and obstacles based on sampled melody and tempo from user-selected songs; winner of The Echo Nest's "Prize for Excellence" at Tufts Hack 2013
**Image manipulation:** Wrote and optimized image manipulation tool in C, including image compression, rotation, etc.
**Parq:** Designed and built parking spot rental app using the Google Maps API
**OpenGL (graphics, C++):** Created multithreaded recursive ray tracer, supporting a wide range of complex rendering techniques in C++, developed sophisticated animated particle system using GPU shaders
**Distributed hash table:** Created distributed hash table in C with strong partition tolerance and consistency
**Universal machine:** Created virtual 13-opcode universal machine in C and wrote calculator in machine language

## Experience

**CUAHSI** – Medford, MA**,** *Undergraduate Research Assistant* September 2014 – present

**Tufts University EECS Department** – Medford, MA**,** *Teaching Assistant* September 2013 – present

- Dedicate up to 20 hours weekly to explaining concepts and assignments to students, particularly in "Machine Structure and Assembly Language Programming" and in "Programming Languages"
- Instruct students in groups and one-on-one to troubleshoot and debug C++, C, assembly code, Scheme, and ML
- Evaluate and grade assignments and exams

**GE Intelligent Platforms** – Foxboro, MA**,** *EID Software Engineering Intern* May – August 2014

- Designed, proposed, and implemented module for internationalization management (string translation, dates, times, etc.) and created Pig Latin language pack that updates as part of build process
- Ported Chrome-only web app to IE, solving one of the most significant customer-facing issues
- Isolated and resolved SQL deadlock errors that were causing intermittent errors for the client

**avast! Antivirus** – Prague, Czech Republic, *Software Engineering Intern* June – August 2013

- Designed and implemented a suite of intelligent client crash management tools, including a dashboard UI to dynamically display data and analytics to prioritize bug fixes, integrating with JIRA to debug crashes and share debug results with other developers
- Created secure virtual machine reservation service to reserve virtual machines, load requested disk images onto virtual machines before use, notify the user when ready, and free resources after the user is finished
- Developed and debugged antivirus software on networked virtual machines

## Activities & Interests

**Tufts Computer Science Exchange**, *Member* September 2012 – present
**Tufts Symphony Orchestra**, *Principal Cellist* September 2011 – May 2012

- Led sectionals for the viola, cello, and bass sections of the orchestra

**Somerville and Medford Public Schools**, *Volunteer Orchestra Instructor* September 2011 – May 2012

- Instructed 3rd to 12th grade string musicians weekly at Medford and Somerville public schools

**Language Skills:** Conversational Spanish