

Zachary Espiritu

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Education

Brown University

Providence, RI • May 2021

Sc.B. Computer Science • GPA: 4.0

Regis High School • June 2017

Skills

Languages

Ruby • Python • C • JavaScript •
HTML / CSS • Swift • Objective-C •
Pyret • Racket • Go • PHP •
MATLAB • SQL

Technologies

Rails • React • Node.js • Sass •
jQuery • Heroku • Firebase •
PostgreSQL • LaTeX

Formal Methods

Alloy Analyzer • TLA+ • Z3

Prototyping and Design

Sketch • Figma • InDesign •
Photoshop • Adobe XD

Coursework

Accelerated Introduction to CS

Computer Systems Security

Discrete Structures and Probability

Introduction to Computer Systems

Linear Algebra

Logic for Systems (Formal Methods)

User Interfaces and User Experience

Awards

2nd Place at Microsoft Coding
Challenge • Providence, RI

Apple WWDC Scholarship
Winner • San Jose, CA

Interests

Lighting Design • Musical Theater •
Rhythm Games • Layout Design

Experience

Brown PLT (Programming Languages Team)

Winter 2018 – Summer 2018

Undergraduate Researcher

- Created a peer review system for code assignments built on Google Apps Script.
- Ported TensorFlow.js to Pyret to allow for Pyret programs with machine learning.
- Implemented a Pyret kernel for the Jupyter messaging protocol, allowing for the creation of Pyret “notebooks” and a command-line REPL for Pyret.

Brown Computer Science Department

Fall 2017 – Present

Head Teaching Assistant for CSCI0190: Accelerated Intro to Computer Science

- Hired, trained, and coordinated staff of 9 undergraduate teaching assistants; graded student submissions; developed new assignments and scripts for TA use.
- Organized summer placement process and coordinated grading for 173 students.
- Previously TA for CS5: Data-Centric Intro to Programming (Fall 2017) and CS4: Intro to Scientific Computing and Problem Solving (Spring 2018).

Negotiatus

Summer 2017

Software Engineering Intern

- Co-developed *Leadbase*, an automated sales lead information validation tool.
- Streamlined operations workflows by directly working with vendors to create automated price comparison tools integrated with third-party vendor systems.
- Developed internal system for fulfilling orders, replacing the majority of a previous spreadsheet-based workflow.
- Optimized PostgreSQL queries, leading up to ~500x faster full-text searches.

Negotiatus

Summer 2016

Software Engineering Intern

- Created client-facing system for scheduling automatic, recurring orders; automated previously manual product price collection using web scrapers and NLP.
- Developed *Notifications*, a scalable, client-facing module for sending users alerts.
- Co-wrote full-system test suite from scratch with over 70% coverage; led development of company Ruby style guide.

Projects

([more at zacharyespiritu.com](http://more.at/zacharyespiritu.com))

Math Battle!

Real-time, multiplayer, educational math experience on iOS with 4000+ downloads. Named on “10Under20: Young Innovators to Watch” list at CEWeek 2016 for this work.

collab/space

Created at Hack@Brown 2018. An online IDE built using Meteor and React for real-time collaboration via a live-updating editor, in-browser code compilation, and video chat.

Tile, Tap, Push!

Two-player iOS game about tapping tiles in split-screen multiplayer. 7000+ downloads on App Store and “Audience Choice” winner at Make School Demo Day.