

Zachary Espiritu

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Education

Brown University • May 2021
Sc.B. Computer Science • GPA: 4.0

Regis High School • June 2017

Skills

Languages

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

Technologies

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

Formal Methods

Alloy Analyzer • TLA+ • Z3

Prototyping

Sketch • Figma • InDesign •
Photoshop • Adobe XD

Coursework

Accelerated Intro to Comp. Sci.
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

**10Under20: Young Innovators to
Watch** • New York, NY

Interests

Lighting Design • Musical Theater •
Speech/Debate • 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.
- Developed pyret-tensorflow, a machine learning library built on top of TensorFlow.js.
- 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 CS19: 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 164 students.
- Previously Undergraduate TA for CS5: Data-Centric Intro to Programming (Fall 2017); 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 team workflows by working directly with product vendors to create automated price comparison tools directly integrated with vendor systems.
- Engineered online interface for handling orders to replace the majority of previous spreadsheet-based workflow.
- Optimized PostgreSQL queries for 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 scalable module for sending and displaying notifications to users.
- Co-wrote full-system test suite from scratch with over 70% coverage; led development of company Ruby style guide.

Projects (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.

Github Dating Simulator

Rails web app that analyzes Github profiles and creates best-match hackathon teams.