

Zachary Espiritu

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Education

Brown University

Sc.B. Computer Science

GPA: 4.0 • Graduating May 2021

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

Computer Systems Security

Design and Analysis of Algorithms*

Discrete Structures and Probability

Introduction to Computer Systems

Introduction to Computer Graphics*

Linear Algebra

Logic for Systems (Formal Methods)

Statistical Inference I*

User Interfaces and User Experience

* in progress

Interests

Theatrical Lighting Design

Plays and Musicals

Print Layout Design

Rhythm Games

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 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)

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.