

# Jonathan Liu

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[LinkedIn](#) | [GitHub](#) | [Portfolio Site](#)



## EXPERTISE

Ruby  
Three.js

Rails  
jQuery

JavaScript  
React.js

Redux  
Python

HTML5  
CSS3

SQL  
Git

## PROJECTS

### Ask()

[Live Site](#) | [Github](#)

*Single-page application for asking and answering questions inspired by Quora created using Ruby on Rails, React, and Redux.*

- Secured user data with a customized authentication system using BCrypt for password hashing and SecureRandom for session tokens.
- Optimized data-fetching by bundling JSON responses to a single AJAX request for each view.
- Implemented a search bar with autocomplete using the PgSearch Ruby gem for PostgreSQL trigram searches.

### Synesthesia

[Live Site](#) | [Github](#)

*Browser-based 3D music visualizer built with Three.js and the Web Audio API.*

- Designed visualizations in Three.js with cube, tube, and particle geometries.
- Normalized audio sampling rate to ensure consistent quality experiences.
- Allowed users to customize their experience by supporting local music uploads processed as audio array buffers.

### Runway

[Github](#)

*Custom controller and view backend framework built with Ruby.*

- Managed HTTP requests with a router that instantiated controller instances to generate views for the client.
- Protected against CSRF attacks with authenticity token generation for post, put, and delete requests.
- Included a set of middleware that would allow users to serve static assets through URL paths and generate a custom view to render exceptions.

## EXPERIENCE

### Administrative and IT, Contract | December 2016 - March 2017

*Medows CPA, New York, NY*

- Developed scripts in Python to handle automatic batch file transfers.
- Onboarded 2000 clients from a firm merger into new Client Relationship Management and Document Management System software.
- Directed network setup and expanded the workstation domain by 40%.

## EDUCATION

### APP ACADEMY (Summer 2017)

Immersive software engineering program with < 3% acceptance rate. Curriculum emphasis on full-stack development, algorithms, and data structures.

### YALE UNIVERSITY (Spring 2015)

*BA - Economics*