

Allison Colyer - Full Stack Software Engineer

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SKILLS

Programming Languages: Dart, Java, JavaScript, TypeScript, Python, CSS, Sass, HTML5

Technologies and Frameworks: Flutter, React, React Native, Node.js, Express.js, GraphQL, Git, Github, Gitlab, Netlify, AWS, Heroku, Flutter Bloc, REST APIs, Google App Script, Jest

EXPERIENCE

Top Hat (formerly Aktiv Learning) | Software Engineer III | August 2020 - Present

- Lead Dart developer of Aktiv's organic chemistry app leading to Aktiv's successful acquisition by Top Hat
- Developed a proprietary canonicalization algorithm in Dart to uniquely encode any organic molecule drawn by the user
- Implemented efficient graph searching algorithms to give automated personalized feedback to over 500,000 students
- Architected a library of optimized Flutter canvas widgets that utilize advanced geometric calculations and path metrics
- Led efforts to refactor logic and widgets across multiple Flutter codebases reducing developer workload by 50%
- Leveraged test driven development (TDD) to write over 2000 unit tests with 76% code coverage across all code bases
- Created and executed plan to re-architect Top Hat's legacy content pipeline, written in Java, and stored in to MongoDB

Recurse Center | Participant | January 2020 - June 2020

- Studied data science, machine learning, algorithms, and backend development at a self-directed educational retreat

Novvum | Full Stack Software Engineer | January 2019 - January 2020

- Designed and implemented a GraphQL database schema for Novvum's largest client, Greenlight
- Created Novvum's marketing website using Gatsby, styled-components, React, Typescript and GraphQL

Technovation | Frontend Software Engineer | January 2017 - January 2019

- Utilized a scrum agile workflow to develop and deploy features for thousands of students to submit their work
- Rebranded Django and Ruby on Rails apps using Bootstrap, Sass, and JavaScript to match new branding guidelines
- Authored computer science, electrical engineering, AI, Arduino, and robotics curriculum for high school students

PROJECTS

Feelsbot | www.feelsbot.me

Feelsbot visualizes a city's mood using artificial intelligence based on the Tweets from people there.

- Created a GraphQL server to call IBM's machine learning API to calculate the emotional sentiment of tweets
- Combine data from the Twitter API and Google maps APIs to tabulate the most recent tweets in geographic regions
- **Tech Stack:** React, GraphQL, Node.js, Heroku, Netlify, styled-components, IBM Watson, Vercel, Google Maps API

Recurse Roulette | <http://www.alli.science/recurse-roulette>

Recurse Roulette allows members of the Recurse Center to randomly pair and video chat with each other.

- Implemented a WebRTC JavaScript library to allow users to share video and audio through a peer to peer connection
- Deployed a signaling server using Node.js that exposes endpoints to match participants and track active users
- **Tech Stack:** JavaScript, Node.js, Express, Heroku, peer.js, Sass, WebRTC

Magic Compass | <https://www.alli.science/magic-compass-app/>

An iOS and Android Flutter app that features a collection of cute characters to act as a compass needle.

- Created in-app purchases that work with both Google Play's API and the App Store API
- Utilized InheritedWidgets and Provider for state management
- **Tech Stack:** Flutter, Dart, Swift, Java, FlutterCompass, Provider

EDUCATION

The Cooper Union – New York, NY

Bachelor of Engineering, Chemical Engineering

Attended with a full-tuition scholarship valued at \$150,000