

Allison Colyer - Full Stack Software Engineer

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SKILLS

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

Technologies: Flutter, React, React Native, Node.js, GraphQL, Git, Netlify, Heroku, CI/CD, Flutter Bloc, REST APIs

EXPERIENCE

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

- Lead Flutter and 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 for instantaneous automated personalized student feedback
- Architected a library of 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%
- Wrote over 2000 unit tests with 76% code coverage across all Flutter code bases that are part of Top Hat's CI/CD
- Develop features in Java to validate, store, and deploy JSON content representing Top Hat's question bank to MongoDB

Recurse Center | Participant | January 2020 - June 2020

- Studied data science and improved frontend and backend skills by attending 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 | June 2016 - January 2019

- Developed Ruby on Rails features for thousands of students to submit their work and receive scores from judges
- Rebranded the Django platform using Bootstrap, Sass, and JavaScript to match new branding guidelines

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 and Google maps APIs to tabulate the most recent tweets based on geographic regions
- **Tech Stack:** React, GraphQL, Node.js, Heroku, Netlify, styled-components, IBM Watson, Vercel

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