

# 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, Github Actions, Gitlab, Netlify, AWS, Heroku, Flutter Bloc, REST APIs, Google App Script, Jest, Yarn, Webpack

## EXPERIENCE

**Top Hat (formerly Aktiv Learning) | Software Engineer -> Senior Software Engineer** | Aug 2020 - present

- Lead Dart developer of Aktiv's organic chemistry app, used in 600+ universities, leading to Aktiv's acquisition by Top Hat
- Developed a proprietary canonicalization algorithm in Dart to uniquely encode any organic molecule drawn by the user
- Implemented efficient graph data structures to give automated personalized feedback to over 500,000 students
- Architected a library of optimized Flutter widgets that cache complex calculations reducing page load speeds by 10x
- Led cross-team collaboration to refactor logic across Flutter codebases reducing developer workload by 50%
- Leveraged TDD (test driven development) to add 2000+ integration and unit tests with 76% code coverage into CI/CD
- Created and executed a six month timeline with milestones to re-architect Top Hat's legacy MongoDB content pipeline
- Identified memory leaks and optimized CPU and RAM usage by 3x in Java processes resulting in cost reduction on AWS
- Utilized Sentry to track bugs, achieving a 1-week average resolution time and reducing bug count by 75%

**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 - November 2019

- Designed a GraphQL database schema and deployed as a Node.js microservice for Novvum's largest client, Greenlight
- Created Novvum's marketing website using Gatsby, styled-components, React, Redux, Typescript and GraphQL

**Technovation | Frontend Software Engineer** | January 2017 - January 2019

- Followed a scrum agile methodology to create a model in PostgreSQL for thousands of students to receive scores
- Rebranded Django, Ruby on Rails, and Wordpress apps using Bootstrap, Sass, PHP, Grunt, and JavaScript
- Authored computer science, electrical engineering, AI, Arduino, and robotics curriculum for high school students

## PROJECTS

**Feelsbot** | [www.feelsbot.me](http://www.feelsbot.me)

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

- Developed a server to call IBM's NLP (natural language processing) 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.*

- Deployed a Node.js signaling server that exposes endpoints for matching participants and video/audio sharing
- **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
- Increased store performance through A/B testing, price experimentation, and examining metrics and analytics
- **Tech Stack:** Flutter, Dart, Swift, Java, FlutterCompass, Provider, InheritedWidgets

## EDUCATION

**The Cooper Union** – New York, NY

Bachelor of Engineering, Chemical Engineering

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