

Allison Colyer

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EXPERIENCE

Aktiv Learning, Software Engineer III (acquired by Top Hat in November 2022) — August 2020 - current

Full-stack engineer with expertise in Flutter and Dart

- Lead developer of Aktiv's organic chemistry app, used by hundreds of thousands of students and professors, contributing to Aktiv's successful acquisition by Top Hat
- Developed a proprietary canonicalization algorithm in Dart for organic molecules to grade student's input. The algorithm understands molecules drawn in any orientation and is the most critical piece of the app.
- Implemented efficient graph searching algorithms for instant automated student feedback. The algorithms intelligently detect errors and give targeted feedback to help the student achieve the correct answer.
- Created custom Flutter widgets allowing students to draw, interact with, and rotate molecules
- Led efforts to refactor and consolidate logic and widgets across multiple Flutter codebases, reducing developer workload and improving frontend-backend integrations
- Maintained a legacy Java project for JSON conversion into Aktiv's frontend consumable format

Recurse Center, Participant — January 2020 - June 2020

Improved frontend and backend skills by attending a self-directed educational retreat

Novvum, Software Engineer — January 2019 - January 2020

Full-stack engineer at a web development agency specializing in JavaScript

- 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, Junior Software Engineer — January 2017 - January 2019

Contributed to Technovation's two web applications, used by tens of thousands of students and teachers around the world

- Built features for the Ruby on Rails app to allow students to submit their work and receive scores from judges

Technovation, Technical Curriculum Developer — May 2015 - January 2017

PROJECTS

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

Magic Compass is a Flutter app for iOS and Android. It features a collection of cute characters that use the phone's sensors to act as a compass needle. It uses InheritedWidgets for state management and includes in-app purchases.

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 and share video and audio through a peer to peer connection. This is accomplished using a WebRTC JavaScript library called PeerJS. Recurse Roulette was built using JavaScript, Node.js, and Express, and is deployed using Heroku.

Feelsbot – www.feelsbot.me

Feelsbot visualizes a city's mood using AI based on the Tweets from people there. Feelsbot combines a machine learning API with Twitter and Google maps to assess emotional sentiment of tweets. Feelsbot was built using React, GraphQL, and Node.js. The GraphQL server is deployed using Heroku, and the React app is deployed using Netlify.

SKILLS

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

Frameworks and Technologies: Flutter, React, React Native, Node.js, GraphQL, Git, Netlify, Heroku

EDUCATION

The Cooper Union – New York, NY

Bachelor of Engineering, Chemical Engineering, May 2015

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