

# Colin Banigan

## SOFTWARE ENGINEER

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cbanigan  
colin-banigan

## WORK EXPERIENCE

### Senior Software Engineer II

#### Instacart

Mar 2024 – Present

San Francisco, CA

- Current: **Tech Lead** for Instacart's AI commerce strategy with external third-party chatbot providers; defining AI-native shopping experiences (MCP, OpenAI Apps SDK, etc.) and building the underlying systems to enable seamless shopping directly through AI native chat platforms.
- Current: **Tech Lead** for the **First Order Experience** team, owning the conversion funnel from app start to first order placed; partner with engineering leadership and product to define roadmap, analyze experiments, and mentor eng.
- **Tech Lead** for the **Weekly Flyers** experience, leading a cross-org engineering effort spanning data acquisition pipelines, catalog storage, API orchestration/serving, client experience, and CRM (email + push); launched flyers across the majority of Instacart's primary retailers and delivered multiple dollars of savings per order with flyer items.

### Senior Software Engineer

#### Instacart

Nov 2021 – Mar 2024

San Francisco, CA

- Authored Instacart's internal **Rich Text** framework, enabling server-driven text styling across **Web, iOS, and Android**; adopted across the Core Experience organization with hundreds of distinct usages.
- Led development of the **Self-Serve Landing Page System**: standardized landing pages to **nine** core components with the Design System team, defined server-client contracts across API and storage layers, and built no-code CMS tooling; reduced implementation time from **two weeks to two hours** and enabled PMs/Marketers to self-serve hundreds of landing pages.

### Software Engineer II

#### Instacart

Oct 2019 – Nov 2021

San Francisco, CA

- Primary engineering owner of the Instacart Homepage and Product Landing Pages; led re-architecture from Ruby on Rails with client-side rendering to a **Node.js** server-side rendering system with **GraphQL** parallelization, cutting page p90 latency from **3s to 1s** alongside A/B-tested growth enhancements.
- Created the “**jobs near me**” SEO landing page ecosystem during early 2020, introducing a long-tail, location-based gig-economy SEO strategy that supported onboarding roughly **500k shoppers** in March and April 2020.

### Software Engineer

#### Capital One

Jul 2018 – Sep 2019

Plano, TX

- Re-engineered Financial Services data pipelines from on-premise to **AWS**, including distributed load, transformation, and validation using **PySpark** on **EMR**, **S3**, and **Snowflake**.
- Built and deployed full-stack monitoring and SLA tooling (**Angular + Spring Boot/Flask + PostgreSQL**) with automated CI/CD (**Docker + Jenkins**) and comprehensive unit, integration, and performance test coverage.

## PUBLICATIONS

Moghadam, K., Banigan, C., Ragan, E. (2018). Scene Transitions and Teleportation in Virtual Reality and the Implications for Spatial Awareness and Sickness. Published in *IEEE Transactions on Visualization and Computer Graphics* vol. 26,6 (2020): 2273-2287.

Garcia, B., Chu, S., Nam, B., Banigan, C. (2018). Wearables for Learning: Examining the Smartwatch as a Tool for Situated Science Reflection. Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems (CHI '18). Paper No. 256.

## EDUCATION

### Master of Science M.S., Computer Science

#### Georgia Institute of Technology

2019 – 2020 Remote (OMSCS)

*Focus: Interactive Intelligence (HCI + AI)*  
GPA: 3.8/4.0

### Bachelor of Science B.S., Computer Science

#### Texas A&M University

2014 – 2018 College Station, TX

*Minors in Visualization and Cybersecurity*  
GPA: 3.57/4.0

## SKILLS

### Languages

Ruby JavaScript TypeScript Go  
Python Java SQL C++ C

### Operating Systems

MacOS Linux Windows Android

### Databases

PostgreSQL DynamoDB Snowflake  
Redis Memcached Elasticsearch

### Back-End

Rails Node.js Express GraphQL  
FastAPI Spring Flask Airflow

### Front-End

React Angular HTML CSS

### Testing

RSpec Jest React Testing Library  
Selenium Unittest JUnit pytest

### Tools

Git Docker Jenkins Datadog  
Sentry Segment Jira GitHub  
GTM GraphQL Postman

### AI / LLM

MCP RAG OpenAI Apps SDK Braintree

### Cloud

AWS (Certified Solutions Architect)