

# JACK ELLENBERGER

## Software Engineer

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## GOOGLE

2021 – Present  
**Software Engineer**  
TECH LEAD · GCP Security  
Access Transparency  
- Created processes and tooling to onboard 100+ GCP teams to Access Transparency platform.  
- Developed internal debugging and monitoring tooling and UIs to help teams achieve compliance.  
- Collaborated across teams and orgs to streamline the onboarding process and isolate gaps.



## NEW RELIC

2020–2021  
**Senior Software Engineer**  
KAFKA PLATFORM  
- Created and improved upon monitoring and tooling for managing several massive Kafka Clusters that are at the heart of the New Relic platform.  
- Integrated AWS MSK clusters to ease horizontal scaling as the business grew.  
- Designed K8s custom resources and controllers to allow for unassisted and self-service Topic management.



## BRAINTREE PAYMENTS

2016–2020  
**Senior Software Engineer**  
SEARCH & REPORTING  
- Migrated on-prem Transaction Elasticsearch cluster to Active/Active multi-region, Terraform controlled AWS ES service.  
- Contributed to DataDog Go SDK to enable features for internal monitoring across BT teams.  
- Allowed for elimination of cpu-hungry Sphinx servers by replacing them with Kafka Streams, enabling latency-free search



### Software Engineer DOCS & SITES

- Developed in-house alternative to Algolia DocSearch for developer docs and marketing site. The solution included site scraping, corpus hosting, backend APIs, and frontend components – enabling that recurring cost to be cut  
- Optimized performance and eliminated release process downtime via nginx and S3



### Software Engineer SDKs

- used in-house DSL to Dockerize Gateway/SDK integration testing; Updated Jenkins CI to reduce execution time by 15x and cost by 85% while maintaining complete coverage for archival releases.  
- Integrated GraphQL backend into Ruby, Python, Node, PHP, Java, and .NET client libraries.  
- Integrated Google Pay V2 into Android and Javascript SDK, increasing GP conversions by 2x.  
- Introduced API schema validation to prevent breaking changes and ensure that all API changes were documented  
- Reduced load times for Javascript Hosted Fields elements on merchant checkouts by 30x in slow network conditions.

## EDUCATION

2016 **The University of Chicago**  
B.S. · Computer Science 🏛️  
MINOR · Statistics 📊  
Courses in Algorithms, Formal Languages, Complexity Theory, Networks and Distributed Systems, Computer Architecture, Compilers, Computer Graphics, and Computational Linguistics



## PERSONAL PROJECTS

**Emoji** npm module and CLI for performing emoji-related actions in Slack. Using a reverse engineered undocumented endpoint, this project has allowed me to keep 40,000 emoji synced between multiple slack instances, and has been instrumental in forcing Slack to rewrite their /customize page at least 3 times.

**Emoji Discord bot** Overcomes Discord's 50-emoji-free limitation by dynamically adding and removing emoji from the active pool based on usage.

**Emoji Chrome extension** Originally created to simply replace :emoji:-like text on the web with your favorite instance's emoji, the extension has grown to be the definitive way to extract a Slack session cookie to authenticate side channel clients.

**Batch Badge Maintainer** A google-internal project making it easy to create and distribute badges at the largest scale. Currently in use to manage ownership of 60,000 Pokemon Mystery Dungeon badges.

**html-to-text** A highly extensible HTML parser created as part of Braintree's Federated Search update. Provides utilities for understanding more complex tables than npm@html-to-text allows.

**Haskell CSV Muncher** An overwrought code golf exercise to convert csv documents into more useful doc types. Used for keeping my resume and website reading from a single source of truth.

**Phyllo APK** An experiment in location based distributed information sharing, essentially Hacker News where viral articles spread geographically, from carrier to carrier based on location and proximity. Includes an Android app and Django backend.


**FOSSFazor** A waveguide for Orthodynamic headphones based off the Audeze model, with designs distributed freely and printed parts sold for a fraction of the real thing.

**oGrocer APK** An to crowdsource current food price trends and give consumers complete price knowledge about what to buy, where to buy it, and when best to go.

## LANGUAGES

★★★★ Ruby, GoLang, Java, Python, Node, TypeScript, JavaScript, SQL  
☆☆☆☆ Haskell, R, Clojure, C++, Embedded C  
☆☆☆☆ 6502 Assembly, Perl, Yacc, awk, G-Code

## PREVIOUS EXPERIENCE

<b>2023-Present</b>	<b>Loba Pastry</b>  Weekend Barista and James Beard Semi-finalist
<b>2015</b>	<b>Revenew</b> Dev Ops Software Engineering Intern
<b>2013-2014</b>	<b>Land O' Lakes</b> Project management & Software Engineering Intern
<b>2012-2016</b>	<b>The University of Chicago</b> Computer Technician

## SUMMARY + INTERESTS

Jack (they/them) is a passionate engineer with a dedication to ethical growth and constant improvement. They value teamwork and flourish in environments that prioritize the science of CS, excellence in engineering, and outputs that drive impact. They are always seeking to expand the breadth of their experience, to find truly interesting problems, to solve in new ways, and to automate toil and set developers free.

I am looking for work that is unambiguously ethical, allows me to grow, and keeps me interested.

Outside of coding I am interested in weird coffee science, computer controlled milling and laser cutting, welding, Cosmology & Astronomy, Linear Algebra, Topology, Number Theory, graphics technology, and baking. My favorite author is Ursula K Le Guin and I would love to talk about it.

## SKILLS & KEYWORDS

Full Stack Development, Jenkins & Travis Continuous Integration, Pair programming, Test Driven Development, SDK Design, Technical Writing, Rails, Linux system management, Android, Web development, Vim & Tmux, Language Tokenization & Design, Docker, Kubernetes, API design, Website ops, Mentoring, gRPC & Protobuf, GraphQL, Kafka, ElasticSearch, AWS

## UNIVERSITY PROJECTS

<b>C Lang</b>	Pintos Kernel, TCP Protocol, Ray Marching Algorithm, Moving Average Analysis
<b>Standard ML</b>	FLang Compiler
<b>Python</b>	Optical Character Recognition (OCR) Model, Protein Data Mining Process, Linguistic Analysis Hidden Markov Model (HMM)
<b>C++</b>	3D Printer conversion to ThermoElectric Cooler (TEC) based Ice printer, Convolution Neural Network, Deferred & Forward rendering Game Engine w/ SSAO