jack.ellenberger.zone

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Jack Ellenberger

Education

The University of Chicago   **2016**

Major: Computer Science, B.S.

Minor: Statistics

Courses: Algorithms, Formal Languages, Complexity Theory, Networks and Distributed Systems,

Experience

Braintree   Online payments and digital Commerce platform serving 6+ billion transactions per year   **2016-Present**

Software Engineer
- Maintained **full stack** of Braintree and PayPal developer documentation and merchant facing websites
- Rewrote unified search module using **Algolia** and a custom parser, increasing searchable text by **600%**
- Optimized site performance and release via **nginx** caching, **S3** asset storage, and **Kubernetes** orchestration
- Integrated a new **GraphQL** backend into existing **Ruby**, **Python**, **Node**, **PHP**, **Java**, and **.NET** SDKs
- Worked on in-house DSL to improve **Docker**ized development on **AWS** infrastructure **Jenkins** continuous integration
- Leveraged ruby introspection to validate pre-schema API, ensuring complete **test coverage** and **documentation**
- Started Python tutorial **mentorship**, participated in open source outreach, and promoted **pair programming** and **TDD**

Revenew   Digital marketing startup bought by Aprimo   **2015**

Devs Ops & Software Engineering Intern
- Decreased analysis duration of 14k sites' traffic data by **120x** through **Piwik** open source contributions
- Wrote tools to allow Wordpress instances to be cloned, migrated, and patched automatically, incorporating Okta SSO
- Introduced **continuous integration** testing to ensure API reliability during QA and production
- Created proof of concept in-browser video editor to enable clients to easily create co-branded advertisements

Land O'Lakes   Digital solutions for agricultural problems, global feed distribution, and dairy foods co-op   **2013-2014**

Project Management & Software Engineering Intern
- Directed development of an internal **iOS app**, including leading **scrum** meetings with an offshore team, problem discovery with stakeholders, fault tolerance **testing**, **documentation**, and user testing
- Produced ELMAH client-side error gathering framework for use in live **ASP.NET** applications
- Engineered pipeline to scrub existing receipt database while increasing **OCR** readability of ingested data
- Hardened login of co-op portal against **XSS** and **SQL injection**, while improving logging and location data collection

The University of Chicago   **2012-2016**

Computer Technician
- Conducted **Tier 1 & 2** technical support for faculty and staff, educating them on best practices and issue avoidance
- Performed onsite hardware repair, data recovery, inventory management, documentation, and triage

Skills

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, Docker, Kubernetes, Language Design, API design, Website ops, Mentoring

Languages

Proficient: Ruby, Python, Node, Javascript, Java, C# .Net, PHP, C++, Arduino/C, Bash/Zsh, R, SQL

Familiar: Objective-C, OpenGL / GLSL, Haskell, SML, Assembly (6502 & x86), Perl, Yacc, awk, sed, G-code

Projects

Personal Projects   https://github.com/jackellenberger/

Emojme
An improvement on my work on emojipacks, with a complete rewrite adding bulk **emoji** download, upload, syncing, and statistics through a reverse engineered undocumented slack api endpoint. Published both as an **npm module** and a command line tool, Emojme allows me to keep **16,000 emoji** synced across multiple slack instances, and has (I believe) been instrumental in forcing Slack to rewrite their /customize page several times over the last few years.

Slack Yaml Manager
A hybrid **Slackbot** and standalone program to allow Slack users create, edit, and run arbitrary jobs based on a shared yaml schema.

[Emojipacks](#)	A codebase designed for importing bought emoji to Slack, co-opted to enable people to transfer and sync emoji between instances. Uses phantomjs to interact with Slack's frontend, making it slower and more brittle than Emojme.
[html-to-text](#)	A highly extensible **parser**, improved upon to better handle complex tables present in Braintree's **developer docs**. Used as part of Braintree's **federated search** parser.
[YamlLineNumbers](#)	A lightweight library to surface source line numbers in parsed **ruby** hashes, used extensively internally to help identify and resolve issues with **kubernetes configs**, static allowlist/blocklists, and programmatic documentation.
[HaskelCsvMuncher](#)	A completely overwrought way to convert csv documents into more useful docs. For example, converting this resume into a markdown document for applications, plaintext for linkedin, and html for ellenberger.zone
Awesome-o	A stateless Slackbot for parsing Trello boards, tracking open source issues, and crawling internal servers to provide a daily digest of to-do's on Slack.
[Jabiru Medical](#)	A Northwestern University incubated medical startup in Chicago, involving an **Arduino** powered proof of concept device designed to help pregnant women understand stressors on crucial muscle groups.
[Phyllo.apk](#)	An experiment in location based distributed information sharing, essentially Hacker News where articles spread literally as viruses do, from carrier to carrier based on location and proximity. Includes an Android app and Django backend.
[ellenberger.zone](#)	A personal website with pages for each of my family members.
[FossFazor](#)	A **3D printed** waveguide for Orthodynamic headphones based off the Audeze model, with designs distributed freely and printed parts sold for a fraction of the real thing.
MuLtiplication	A **Python interface** for radioligand binding assays to determine solubility of novel and published Dopamine D2 receptor-like ligands to be used by the Newman Group at the NIH.
[ShowProdDehydron](#)	A **3D viewer** for displaying Dehydron distribution in proteins, written in Python.
[oGrocer](#)	An **Android app** 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.
Gerrymeleon	A **GPGPU** project in its infancy to calculate and solve Efficiency Gap problems created by gerrymandering

University Projects

C	PintOS Kernel, TCP Protocol, Ray Marching Algorithm, Moving Average Analysis
Standard ML	FLang Compiler
Python	Optical Character Recognition Model, Protein Data Mining Process, Linguistic Analysis HMM
C++	TEC based Ice 3D printer mod, Convolution Neural Network, Basic Game Engine