

James N. V. Cash

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[Github](#) [LinkedIn](#)

Principal-level software engineer with more than a decade and a half of experience in designing and implementing complex, full-stack applications and a deep expertise in functional & data-driven programming. Proven leader in mentoring engineers, bringing technical innovation, and building from plan to product. I look forward to leading your development team to the next level of excellence.

EXPERIENCE

Cosmic Walk

Lead Developer

Dec 2018 – Present

For this innovative educational & artistic endeavour, I:

- Designed & built an educational iOS/Android app that makes abstract scales tangible by mapping them onto physical walks, letting users experience the size of the Solar System or the history of life on Earth as a real-world journey
- Implemented the full iOS app in Swift (with Objective-C and C for low-level & performance-sensitive components) and the Android version in Dart/Flutter
- Implemented a sibling app, “Cosmic Calendar” in SwiftUI, sharing the core logic of the original app, mapping walks over time (a one-year calendar) instead of over physical space
- Built a bespoke CMS in Clojure/ClojureScript, using git as a backing store to enable easy revision of content history and the ability to vend different versions of the content (e.g. “published” version to app users, “live” version to developers & content authors)
- Currently in beta with more than 700 downloads and 100% five-star reviews

Bloom Ventures

Co-Founder, Lead Developer

Feb 2013 – Present

(formerly Lean Pixel)

Our bootstrapped venture has been able to build out a dozen products & projects over as many years without taking external funding. At Bloom, I:

- Built and maintain “[Braid](#)”, an open-source real-time chat system in Clojure/ClojureScript optimized for async remote teams. More than 900 stars on Github, used in production since 2016. Key differentiators include a thread-first design, minimizing distractions and improving the signal-to-noise ratio of chat.
- Built “[Unstuck](#)”, a WebRTC-based video collaboration tool with real-time cursor sharing & screen annotation, enabling richer remote collaboration than standard video tools. We’ve used it internally for several years and beginning to advertise it to clients.
- Built and maintain “[Vox](#)”, a political advocacy tool for a client that has allowed more than half a million constituents to contact their representatives over more than five hundred campaigns. It includes a GIS-based database for recording mappings of representatives to ridings, a CMS for the client to develop campaigns, and the user-facing “call-to-action” embeds.

SWI-Prolog

Contributor

Mar 2018 – Present

As a part of my hobby projects, I have contributed code to improve the SWI-Prolog language in a variety of ways, including:

- Built the de-facto standard [Language Server Protocol implementation for Prolog](#), enabling first-class IDE support (autocomplete, go-to-definition and -usages, inline diagnostics) across VS Code, Emacs, vim, and other editors. It has more than 4,000 downloads, the #4 most-downloaded SWI-Prolog library of all time.
- Developed the only HTTP/2 client in the Prolog ecosystem, enabling modern integrations previously unavailable to pure Prolog applications (e.g. directly sending iOS push notifications)
- Extended the SSL library to support TLS-ALPN, unblocking secure, modern protocol negotiation for Prolog’s networking tools.
- Built a Tailwind CSS implementation in Prolog
- Build a cross-platform file-watching & hot-reload utility

LogicMoo/SingularityNet

MeTTa LSP

Jan – Aug 2025

- Recruited to port my Prolog LSP implementation to work for SingularityNet’s MeTTa language
- Extended the server with additional LSP features including code-formatting, snippet evaluation, and LLM-assisted automatic code commenting

Lighthouse Labs

Instructor, Mentor

Jun 2015 – Nov 2021

At this Toronto bootcamp, I:

- Delivered iOS and web development instruction to 500+ students across six years of 8-12 week bootcamps, consistently receiving top instructor ratings
- Wrote curriculum for AR in iOS, contributed to curriculum redesign for iOS to use Swift and for web to add React Hooks instruction

Penyo Pal

Lead Developer

Apr 2012 – May 2023

These language-learning games are still available, but our development is in maintenance mode for the present. As the primary/lead developer for Penyo Pal,

- Wrote much of the code for our games, with special emphasis on backend framework enhancements. The games have a five-star rating, more than 150,000 downloads, more than 10 million hours of game time, and won “Best Overall 1.0 Startup” at launch.
- Formerly dealt with Lua and C++ code, now primarily ClojureScript, Clojure, and Objective-C as we migrated to new development practices as the hardware became more capable and we found better & more consistent workflows

U of T Hacker Academy

Co-Founder, Developer, Lecturer

Jul 2011 – Apr 2012

- Co-founded a programming club at the University of Toronto that outlasted my tenure, teaching CS fundamentals and running programming contests via a custom-built website & contest platform

IBM

Software Engineer Intern

Nov 2010 – Aug 2011

- Worked on the Jazz Foundation/RTC team to design, implement, and debug various aspects of the Jazz Foundation Web UI, primarily Dashboard Viewlets and OpenSocial Gadgets
- Performed an analysis of server-side templating technologies

Google

Software Engineer in Test Intern

Aug – Nov 2010

- Designed and implemented a continuous integration end-to-end testing system, porting the existing system from bash to Python, while improving robustness and generality
- Ported a large extant test suite to the new system

Skule.ca

Developer

Jun 2009 – Jun 2012

- Designed and implemented a pluggable user authentication system for use across the engineering students’ websites
- Implemented ranked-choice instant-runoff election calculation
- Provided mentoring in development to fellow students

Open-Source

Code & Documentation

Ongoing

A brief selection of some of the open-source projects I’ve contributed to, both for personal interest and in the service of improving dependencies of some work projects:

- **Girouette** Second-most prolific contributor to this Tailwind reimplementation in Clojure, behind only the original author
- **Electron** Landed a patch that fixed multi-monitor video sharing with preview on Linux
- **GNU Emacs** Contributed several patches to Emacs, including improvements to the new tab system and bug fixes to the completing-read system
- **Kaleidoscope** Contributed documentation and several plugins to this C++ keyboard firmware project; collaborated with the founders of Keyboardio & Dygma to build GUI keyboard configuration tools

TECHNICAL SKILLS:

Expert Level Clojure(Script), git, Prolog, Swift, JavaScript, SQL, Emacs-Lisp, Python, bash

Working Knowledge C, Objective-C, SystemD, Ruby, Github CI, Ansible, C++

Methodologies & Practices Agile, Kanban, CI/CD

EDUCATION:

Bachelor of Applied Science in Engineering Science, Electrical & Computer Major, University of Toronto. 2007-2012.