

Jason Pepas

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Innovative and results-driven **iOS Engineer** passionate about performance, reliability, automation, and team growth.

Staff iOS Engineer, Everly Health, Inc. (2/2022 - 10/2024)

- Developed **patented** ([#11915423](#)) algorithms using Apple's Vision framework to assess blood spot card viability, reducing kit replacement costs.
- Launched a greenfield app with **4.9-star** App Store rating and 99.99% crash-free stability, supporting 60K monthly active users.
- Built custom **code generation tooling** (*Python*) to create Swift API clients from OpenAPI and GraphQL specs, ensuring seamless and reliable integration of API updates.
- Developed an automated nightly job to capture **screenshots** of all app screens across multiple iPhone resolutions and font sizes, enabling efficient **visual QA** by the design team.
- Led a cross-team initiative to establish a **Swift-Javascript bridge**, synchronizing state between native and webview components.
- Designed a data **architecture** based on Gary Bernhardt's "[Boundaries](#)", focusing on pure functions for testability and using value types as the interface between objects.
- Optimized app UX with **latency-hiding** techniques (API request deduplication, prefetching, caching).
- Automated **Datadog alert** creation by directly parsing Swift source code, eliminating the need for configuration file maintenance.
- Reduced **CircleCI** costs by developing a caching mechanism (with invalidation) for Carthage, Homebrew and Ruby Gem artifacts.

Principal iOS Engineer, Ibble, Inc. (2/2021 - 1/2022)

- Dramatically decreased video playback UX lag by porting React Native components to **Swift native components** (see ssl.pepas.com/ibble.mp4).
- Optimized time-to-first-frame of video playback by implementing HLS prefetching for AVPlayer using an on-phone **HLS proxy server**.
- Implemented a two-way communication **bridge** to synchronize React Native and Swift state.
- Built custom **code generation tooling** to synchronize Typescript and Swift type definitions.
- Captured tribal development process knowledge in the form of dozens of automation **scripts**.
- Augmented build scripts with **Slack** integration, enhancing team visibility.
- Contributed to development of **React Native** features.
- Led a **Swift guild** to teach Swift to React Native developers.

Sabbatical (10/2019 - 1/2021)

- Shipped an iPhone/iPad app: **GridNotes**, a configurable piano with a grid-based layout. See github.com/cellularmitosis/GridNotes.
- **Programming projects:** Lisp interpreter (*C*), hash table (*C*), LC-3 assembler (*Python*), transpiler for an alternative C syntax (*Python*), lexer and parser generators (*Python*), Sudoku solver (*C, Python*), Snake game (*C/SDL*). Details at jason.pepas.com.
- **Electronics projects:** A/B/X testing audio switchboard, audio DAC circuit board designs.
- Completed David Beazley's **Structure and Interpretation of Computer Programs** and **Compilers** courses.

iOS Tech Lead, FloSports, Inc. (1/2017 - 10/2019)

- Led the greenfield development of the FloSports iPhone and **tvOS** video streaming apps.
- Used **RxSwift** to implement a live stream player which responded to events from multiple APIs.
- Implemented an API-driven **widget** architecture for dynamic native content.
- Designed and implemented iOS-specific **API endpoints** (*PHP*).
- Partnered with the design team to develop a **design language** and implement a hidden menu allowing designers to tweak design elements in real-time without requiring app rebuilds.
- Encouraged **demo-driven development** to maintain high developer velocity.
- Led a weekly **tech talk** screening / discussion group.
- Co-led a weekly programming **puzzles** guild.
- Designed and led an **outreach** event teaching the Latinitas youth group to build and program Arduino-based two-wheeled robots.

Senior iOS Engineer, Khan Academy (4/2016 - 1/2017)

- Improved low-bandwidth video experience by extending the API to serve **low bitrate** videos.
- Implemented **exponential backoff** to guard against unintentional API DDOS.
- Enhanced **offline** UX by storing / resubmitting user progress points earned while offline.
- Reduced app bundle size by **14MB** by implementing remote icon fetching and caching.
- Developed a graphic asset optimization pipeline (*Python, Bash*).
- Gained exposure to the **ReactiveCocoa** functional-reactive framework.
- Hackathon project: prototyped automatic Swift **code generation** based on API output structure.

Senior iOS Engineer, uShip, Inc. (4/2013 - 4/2016)

- Reduced the **cost of design iterations** by using separate models for data, layout and style.
- Migrated from Objective C to **Swift 1.2** through a strategy of attrition.
- Provided working **demo apps** to the design team to quickly iterate on design concepts.
- Assisted with the design of iOS-specific **API endpoints**.
- Dramatically reduced **build times** by splitting the app into frameworks.
- Implemented a **UI test automation** solution using Subliminal.

iOS Engineer, Phunware, Inc. (10/2010 - 3/2013)

- Served as **Lead Developer** on four iOS projects (two iPad apps), assisted on many iPhone projects.
- Optimized rendering performance of an iPad app via an asynchronous **rendering queue**.
- Automated the addition of targets to **templated** Xcode projects (*Python*).
- Developed a caching layer which transformed a customer's unreliable XML API into screen-specific **binary P-lists** hosted on S3, greatly improving performance and reliability (*Python*).
- Implemented a **push notification** service provider (*Python*).
- Wrote a **report generation** system capturing app sales and key analytics (*Python*).
- Developed a custom continuous integration **build server** (*Python, Bash*).

EDUCATION:

- Bachelor of Science in Computer Sciences, University of Texas at Austin

HONORS:

- Eagle Scout (*Troop 337 - Katy, TX*)