

# David S.Julius

Staff Software Engineer

Cupertino, United States

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## Professional summary

Senior Software Engineer with over 10+ years of experience in developing robust, user-focused iOS and macOS products. Highly proficient in Swift, Objective-C, C/C++, XCTest, XCUITest, Jenkins, and CI/CD tools, with a proven track record of translating functional requirements into scalable solutions while ensuring maintainability and quality. Deep understanding of Generative AI, including integrating ML APIs for item prediction, automated responses, and personalized content, demonstrating strong expertise in API integration, applied AI, and training models. Experienced in embedding machine learning models and advanced APIs into production systems to deliver secure, high-performance applications. Recognized for meticulous planning, strong problem-solving abilities, and a passion for continuous learning.

## Employment history

### Apple | Senior Software Engineer - iOS/watchOS/macOS/Vision Pro | Cupertino

*TCS May 2021 - Present*

- Engineered responsive, dynamic UIs using SwiftUI, adopting a declarative architecture to simplify state management and improve maintainability by 25%, while rewriting major components such as Attachment Services and File Archive for scalability.
- Architected and developed shared UIKit and AppKit components for cross-platform Apple applications, ensuring UI/UX consistency and alignment with Human Interface Guidelines (HIG).
- Led the creation of Generative AI powered user interface for a customer-facing retail app, integrating ML APIs for item prediction, automated responses, and personalized content.
- Built interactive dashboards and analytics visualizations using Swift Charts, surfacing insights from Apple's internal Radar system (Project management tool, feedback) to improve engineering visibility.
- Expert in Swift's modern concurrency model - including async/await, structured concurrency, and actors, and Combine for reactive and declarative programming.
- Deep understanding of ARC-based memory management, proficient in diagnosing and resolving issues related to GCD, multithreading, retain cycles, and memory leaks to maintain stability and performance.
- Built a network abstraction layer using URLSession and Combine, implementing secure REST/JSON communication with Codable serialization and API retry logic to reduce latency by 18%.
- Designed and implemented a robust CoreData persistence layer, improving offline caching and data retrieval performance by 40%.
- Performed advanced profiling and instrumentation using Instruments, MetricKit, and os\_signpost to identify performance bottlenecks, optimize memory footprint, and reduce app startup time.
- Developed inter-process communication services using XPC and background daemons for software signing and MDM frameworks, integrating mock services and simulators to enhance system-level testing.
- Designed modular framework boundaries and service interfaces, refactoring legacy modules into Swift Packages to improve build parallelization and reduce compile times by 30%.
- Automated testing pipelines with Jenkins, Python, and shell scripts, orchestrating daily CI/CD triggers and parallel regression runs across bots and virtual machines.
- Partnered with cross-functional teams (Engineering, Product, Business, Privacy, Accessibility, and Legal) to align product goals, review readiness, and ensure on-time, high-quality deliverables.
- Authored comprehensive documentation, including architecture specs, implementation plans, test strategies, and release readiness reports, supporting stakeholder communication and compliance.

## **Apple | Technical Lead - iOS/macOS | Sunnyvale**

*Quest Global Oct 2018 - Apr 2021*

- Led the end-to-end design and delivery of iOS and macOS applications, driving a 20% improvement in system efficiency through optimized Swift and Objective-C architecture and performance tuning.
- Developed modern, modular interfaces using UIKit and AppKit, improving code reusability across Apple platforms and ensuring design consistency with Apple Human Interface Guidelines (HIG).
- Implemented Swift Concurrency and GCD-based task coordination to optimize background operations, file handling, and data synchronization.
- Built predictive “Suggestion” feature powered by Core ML and custom inference APIs, enhancing automation accuracy and user experience in Apple’s retail and internal tools ecosystem.
- Designed and deployed a secure networking layer using URLSession, REST/JSON, and Codable, with built-in caching, retry logic, and request throttling, improving API response reliability by 22%.
- Enhanced local data persistence with CoreData, reducing data-fetch latency and enabling reliable offline workflows for macOS utility applications.
- Conducted detailed profiling and debugging using Instruments, Memory Graph, and Time Profiler to identify CPU bottlenecks and memory leaks, improving runtime performance and stability.
- Automated build validation and test execution using Jenkins, SonarQube, and XCTest, cutting manual QA effort by 35% and enabling continuous quality assurance across releases.
- Collaborated with cross-functional teams (framework engineers, QA, and product owners) to define interface boundaries, align module contracts, and ensure compliance with platform-level APIs.
- Directed code reviews, enforced Git and branching standards, and introduced static analysis and linting tools (SwiftLint, SonarQube) to maintain clean, secure, and maintainable codebases.
- Mentored distributed teams across onshore and offshore locations, providing architectural guidance, debugging support, and career development coaching.
- Influenced the technical roadmap by identifying modernization opportunities advocating adoption of SwiftUI, Combine, and structured concurrency to align with Apple’s evolving platform direction.

## **Quest Global | Software Engineer - Mobile applications | Sunnyvale**

*Jun 2015 - Sep 2018*

- Led the end-to-end software development lifecycle, ensuring smooth transitions from development through production with minimal downtime.
- Developed and optimized a high-throughput file compression framework capable of handling terabyte-scale data transfers, improving encoding/decoding and I/O performance across macOS and iOS clients.
- Integrated HTML5 content rendering into native UIKit and AppKit layers, ensuring cross-platform consistency and a unified visual experience.
- Performed in-depth code reviews and resolved critical bugs, accelerating the migration from Objective-C to Swift for enhanced maintainability and performance.
- Improved delivery velocity by 30% through Agile iteration planning, sprint retrospectives, and continuous integration adoption.
- Proficient in refactoring and converting complex stored SQL procedures into optimized server-side queries.
- Mentored junior engineers, fostering a collaborative team culture focused on continuous learning, innovation, and high-quality code delivery.

## **Exilant Technologies | System Analyst –iOS/iPadOS/macOS Developer | Bangalore**

*May 2011 - Jun 2015*

- Spearheaded a revamp of the product design process, reducing time-to-market by 30% through improved workflows and rapid prototyping.
- Enhanced application performance and responsiveness by implementing Grand Central Dispatch (GCD) for secure background data fetches.
- Led a complete UI redesign using Auto Layout, aligning with internal UI/UX standards to deliver a more intuitive and accessible user experience.
- Proficiently used Instruments to debug, profile, and optimize code, significantly improving application and database performance.
- Expert in transforming complex stored SQL procedures into efficient server-side queries, optimizing data access and reducing latency.
- Implemented Apple Push Notification Service (APNS) and custom alert views to enable real-time user updates on product deals and promotions.

## **Tarang Software Technologies | Multimedia Programmer- Web developer | Bangalore**

*Sep 2010 - May 2011*

- Delivered responsive, user-friendly web interfaces using HTML, CSS, and JavaScript, increasing engagement through dynamic multimedia and interactive components.
- Increased user engagement and retention by integrating dynamic multimedia content and interactive features.
- Collaborated closely with the marketing team to ensure application content aligned with branding and strategic goals.
- Optimized request handling and response efficiency through effective use of xml, JSON data frames, enhancing overall app performance.

## **Education**

### **Bachelor of Engineering – Computer Science**

*Visvesvaraya Technological University*

## **Certifications & Courses**

- Certified Scrum Master – Jul 2017 – Present
- AWS Cloud Practitioner – Feb 2024
- Google Cloud Certification – In Progress
- Building Products with GenAI – Aug 2024

## **Core Skills**

**Languages:** Swift / SwiftUI / Objective-C / C / C++ / Python

**Frameworks:** UIKit / AppKit / Foundation / Core Data / Core Animation / ARKit / MLKit

**Networking:** URLSession / REST / JSON / Codable

**Testing:** XCTest / XCUITest / Automation Frameworks

**Integration:** CI / CD / Jenkins / Build Pipelines

**Performance:** Profiling / Instruments / Debugging / Memory Management

**Architecture:** Modular Design / API Design / Dependency Injection

**Security:** Encryption / Secure Coding / Keychain / Data Protection

**Tools:** Xcode / LLDB / Sanitizers / Build Phases / Symbolication