

Nicolas Dedual

NYC, NY

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Software Engineer with over 19 years' experience, 13 of those focused on visionOS, iOS, tvOS and macOS development, and now Unity and Unreal Engine. Through my company (Dedual Enterprises Inc), I've been a dev-for-hire (both as a contractor and FT) for companies of all industries and sizes: from start-ups (**Rad Hires, Sneakers Agency, PodOp**) to mid-size companies (**Atlas Obscura, Hivemapper, OTG Management, Big Human, SYPartners**) to multinational corporations (**Dolby Laboratories, NYPost, PepsiCo, Intel Corporation, Walmart**).

WORK EXPERIENCE

Dedual Enterprises Inc - New York, NY

Lead Developer / Owner

December 2008 - Present
Various roles and technologies

- Specialized in mobile app development, remote and on-site debugging of troublesome application, creation of rapid prototype solutions, greenfield apps built from designs to the App Store, brownfield app that support current infrastructure, and debugging and optimization services for our clients (with an emphasis on visionOS/iOS/tvOS development, computer vision-powered applications and augmented reality development). Some apps and clients we've worked with:
 - [Spatial Delivery](#) (visionOS – Enterprise Product – **February 2024 – Present**): Store Planner application + others
 - [Project Archer: A Store No. 8 Company](#) (visionOS – Enterprise Product, **November 2023 – February 2024**): Enterprise Spatial Computing system
 - Nivos** (iOS/Unity/Game Design – In-house Project, **2023 – Present**): 3D/AR laser puzzle game.
 - Claire** (iOS/Web dev – In-house Project, **August 2023 – Present**): Food recipe API service with a recommendation engine and iOS client.
 - [Rove/ ParlaAI /Zenrise Studios](#) (iOS/Mentoring Services – February 2023 – September 2023)
 - Podop** (Senior iOS Developer / Engineering Manager – July 2021 – July 2023)
 - [Atlas Obscura](#) (Senior iOS Developer / SwiftUI – October 2021 – December 2021)
 - [Socure](#) (Lead iOS/SDK Developer - January 2020 – June 2021)
 - [LoveBomb](#) (Lead iOS Developer - December 2019– February 2020)
 - [Dolby Laboratories](#) (Tech Evangelist/ Speaker - April 2016 – September 2017)
 - Podop** (Senior iOS Developer / Swift/iOS/tvOS/macOS – February 2016 – October 2019)
 - Released [Mosaic](#) branching narrative film and app (November 2017)
 - [Nico](#) (iOS Developer / Swift - Contractor – October 2015 – January 2016)
 - [Hivemapper](#) (iOS Developer / Swift – October 2015 – January 2016)
 - [FieldTheBern](#) (Volunteer iOS Developer / Swift – October 2015 – February 2016)
 - [PepsiPass](#) (iOS Developer / Swift – November 2014 – July 2015)
 - [MySport – The Social Network for Sports](#) (iOS Developer / Objective-C – May 2014 – November 2014)
 - [Spotlight Text](#) (iOS Developer / Objective-C – 2014)
 - [Victoria's Secret PINK apps](#) (iOS Developer / Objective-C – 2012)
 - [Gerber Pregnancy](#) (iOS Developer / Objective-C – 2012)

SKILLS

- Languages:** Swift, C#, C++, Objective-C, C, Python, Rust, Node.js, GLSL, MSL, GraphQL, Java, XNA, PHP, Lisp, MySQL, Kotlin
- CI/DevOps/IDEs:** TravisCI, Jenkins, TestFlight, Firebase, Github, Git, Gitlab, XCode, Nova
- iOS Frameworks:** AVFoundation, CoreML, ARKit, CoreAnimation, RealityKit, FairPlay integration, RoomPlan, AVKit, SceneKit, CoreTelephony, CoreData, Vision, CoreLocation, Accelerate, Foundation, AFNetworking, GCD, UIKit, SwiftUI, etc.
- Architecture patterns:** MVC, MVP, MVVM, MV (for SwiftUI)

EDUCATION

Columbia University

Master of Science - 2010

Major in Computer Science, focus on Human-Computer Interaction and Augmented Reality

New York, NY

Awards: Intel Fellow, National Consortium for Graduate Degrees for Minorities in Engineering and Science Fellow

University of Florida

Master of Science - 2008

Major in Electrical and Computer Engineering, focus on Signal Processing (image and biomedical) and Human-Computer Interaction
Gainesville, FL

Northeastern University

Bachelor of Science - 2006

Major in Computer Engineering, focus on Software Engineering and Biomedical Image Processing
Boston, MA

HIGHLIGHTS

Spatial Delivery – Seattle, WA / Remote

Lead iOS Developer / visionOS Developer

visionOS/iOS

- Built a store design and planogram planner ecosystem that uses spatial computing to facilitate the store planning design and iteration process, as well as adjust planograms of shelving units to maximize their retail potential.
- Designed and created back-end (Python + Swift), CMS client (macOS/iOS) and front-end clients (visionOS)
- Instituted 3D data visualizations of proprietary metrics, overlaid on life-size 3D models of interest to enterprise users.
- A version of this application is used by a Fortune 10 company to highlight the benefits of spatial computing to prospective clients and customers.

Project Archer – a Store No. 8 Company – Seattle, WA / Remote

Senior iOS Developer / visionOS Developer

visionOS/iOS

- Realized in 2 months an MVP on the Apple Vision Pro for Walmart that highlighted how spatial computing in retail can aid product placement in stores and maximize profits.
- Application received high praise from Apple CEO Tim Cook on February 1, 2024 earnings call.
- Established a synchronization engine that supported up to 20 concurrent users to edit a single 3D environment.
- Instituted 3D data visualizations of proprietary metrics, overlaid on life-size 3D models of interest to enterprise users.
- Optimized application performance by 20x, reducing initial load time and improving overall input responsiveness.
- Demo video and more details of project can be furnished on a confidential basis. (PW: wsmmp-2024)

PodOp - New York, NY

Senior iOS Developer / Engineering Manager

iOS/tvOS/macOS/Engineering Management

- Published *Mosaic*, a branching narrative movie starring Sharon Stone and directed by Steven Soderbergh.
 - Built iOS and tvOS applications, specifically working on navigation and video player UI/UX for both platforms.
 - *Mosaic* was selected as a finalist for Outstanding Innovation in Interactive Media by the Television Academy.
- Developed an internal screenwriting and branching narrative visualization desktop app (**Plot**) that was used throughout *Mosaic* and other projects.
- Improved on existing post-production branching narrative publishing and compositing tool (**Sequence**).
- Prototyped a live 3D-based transition system that composed a 3D environment over a video to display interactive elements to end-customers.
- Communicated with the film production team, as well as our design team, to gather requirements and implement prototypes of navigation models, on-device VFX that could be used, 360 video rendering and other considerations and explorations pursued by the film production team.

Socure - New York, NY

Senior iOS Developer / Engineering Manager

iOS – Swift/Objective-C/C++

- Crafted two SDKs: *Document Verification* and *Device Risk*, which are actively used by Socure's clients like: Betterment, SoFi, Chime and others. Instituted Jenkins CI-based testing and deployment pipeline.
- *Document Verification* provides verification of ID documents using a device's camera, and *Device Risk* provides session usage authentication and validation by tracking certain device metrics.
 - Brought down install memory footprint from 200+MB to 3.6 MB, all the while eliminating 3rd party dependencies and recreating all existing functionalities using Apple Vision and other 1st party libraries.
 - Implemented two UI/UX redesigns during my tenure, using some augmented reality designs to better guide the document scanning experience.
 - Supervised team in India for additional development work.
- For *Device Risk*, created initial SDK based on list of requirements and was designed to run unobtrusively and would dynamically adapt its algorithms if other Socure SDKs were in use by a developer.

PepsiPass - New York, NY

iOS Developer

iOS – Swift / Objective-C/ Android – Java / C++

- Designed app view, network, and business-logic architecture, implemented all UI/UX designs provided to us by the client, created several critical UI components such as:
 - Realistic pendulum dynamics for several UI elements via UICollectionViews and dynamic Auto Layout constraints
 - Soda bubbles that float up the screen (done through SpriteKit),

Developed an OCR engine on both iOS and Android platforms using Objective—C, Java (with JNI C/C++ components) and C++ code.