Jonathan Cole, Lead iOS Developer

Boston, MA

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Multifaceted developer with a strong history of execution and innovation in a wide variety of software projects and interaction media. Can help you make your next great iOS app, or dive deep into experimental technology to make something nobody has ever seen before. Skilled with **iOS**, **augmented reality**, and **computer vision**.

SKILLS

iOS Development

SwiftUI UIKit Swift Objective-C

BLE IoT MetalKit SceneKit

watchOS

AR / VR

OpenCV Unity3D ARKit

Rapid Prototyping

Experience Design

Languages

Swift Objective-C Python C#

Javascript C++ Metal GLSL

WORK EXPERIENCE

2018 - Current

Rightpoint (formerly Raizlabs) 📍 Boston, MA
Lead iOS Developer (promoted in 2022)
Senior iOS Developer (promoted in 2020)
Software iOS Developer (started in 2018)

Built UIKit and SwiftUI iOS apps serving tens of thousands of users in a fast-paced agency environment. Responsible for architecture and implementation in teams large and small, on wide-ranging projects that:

🐬 Reimagine the in-park experience for SeaWorld's visitors

💡 Power the smart lighting in your home with BLE and WiFi

🤖 Pilot Boston Dynamics' Spot robot dog

🏪 Help store owners manage their shelves with OpenCV image analysis

🚏 Guide visually impaired people to bus stops with Bluetooth ranging

🗺 Visualize the way your autonomous vacuum sees your home

- Worked the entire stack, spanning architecture, persistence, API integration, framework development, and continuous integration

- Responsible for investigating feature feasibility and communicating scope to deliver timely, well-built code

- Go-to for difficult experimental / trailblazing projects requiring an investigative approach

- Pinch hitter and frequent consultant for computer vision and augmented reality projects

- Worked extensively with Bluetooth, BLE, and Internet of Things devices

2016 - 2017

Maine Discovery Museum 📍 Bangor, ME
Experience Designer

Worked in collaboration with the museum to create interactive, software-driven exhibits for children.

- *The X-Ray Hand*: Developed an interactive exhibit that uses Unity and augmented reality via Leap Motion to show a live x-ray visualization of the bones in a visitor's hand
- *Sea What Grows*: Created an iOS-based kiosk as part of a wider aquaculture exhibit to teach children about the ocean

2011 - 2018 **The Virtual Environment and Multimodal Interaction Laboratory** 📍 Orono, ME
VR / AR Engineer

Innovated at the bleeding edge of VR and AR.

- Developed several VR simulations using Unity3D in close collaboration with researchers
- Pushed the lab into new territories with wide-ranging projects, from the development of a custom-built wearable AR platform to the development of a fully immersive driving simulator to study eye disease in a new way
- Mentored more than 30 students in programming and interactive design
- Integrated VR technologies with Unity3D before official support, often involving hardware hacking or creating native plugins
- Created a full-stack web app implementation of the W3C Web Annotation Model for Dartmouth's Semantic Annotation Tool as part of the Media Ecology Project

PROJECTS

Liquid Math (App Store)

Conceived, designed, an implemented an interactive, Metal-powered Reaction-Diffusion simulator for iOS and macOS.

iOS   macOS   SwiftUI   Objective-C   Metal   GPGPU   Creative Coding

Kino (GitHub)

Master's thesis. Created a custom AR headset and accompanying software empowering researchers to rapidly design computer vision experiments for wearable AR headsets. An example plugin was developed for real-time object recognition using machine learning.

OpenCV   Augmented Reality   C++   Fabrication   3D Printing   Research

Semantic Annotation Tool (GitHub)

Created the frontend and co-created the backend of a full-stack web app for Dartmouth's Media Ecology Project. The frontend is an embeddable video player which allows users to create and edit rich annotations for web videos, which is driven by a RESTful Rails backend that manages these annotations.

Javascript   Rails   Ruby   REST   Frontend   Backend

EDUCATION

Bachelor of Science - Computer Science at the University of Maine
May 2015

Master of Science - Spatial Information Science and Engineering at the University of Maine
Dec 2017