

# Andy Biar

## Senior Software Engineer

### ENGINES

Unity (C#), 11 years  
Unreal (C++), 2 years

### XR API'S

ARKit (Objective-C++)  
OpenXR (C++)  
ARCore (C++)

### SKILLS

#### Unity Packages

- Architecture
- Development
- CI / Tests
- Documentation
- Distribution

#### Unity Tools

- Bespoke workflows
- Editor extensions
- Usability / UI Design
- Visual Scripting
- Analytics

#### API Design

- Client SDK expert
- SemVer compliance
- REST client/server

## EXPERIENCE

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### Senior Software Engineer, Unity Technologies

December 2021 - Present • Seattle, WA

- Designed and developed cross-platform AR Foundation (ARF) API's as part of Unity's XR Features team. Prolific contributor to [XR Simulation](#), [ARKit 6 integration](#), and unannounced AR projects
- Implemented both managed (C#) and unmanaged (C++, Objective-C++) API's with interop via IL2CPP P/Invoke wrappers
- Collaborated with internal teams on bugfixes, design improvements, customer requests, documentation, and user engagement
- Pitched and led an initiative to restructure ARF documentation to improve organization and readability. ([Before](#) / [After](#))
- Pitched and led an unannounced usability initiative

### Lead Unity Developer, Hashbang, Inc.

May 2021 - December 2021 • Seattle, WA

- Contract Team Lead for a 6-month contract with Square Enix Montréal on their mobile title [Hitman Sniper: The Shadows](#)
- Hired and led a team of 7 contractors to implement a wide range of features for our client. Implemented ad mediation, App Tracking Transparency, iOS build pipeline, and improved app performance
- Led aspects of Hashbang's Engineering department (12 engineers) including talent development and hiring

### Senior Software Engineer, Wave ([wavexr.com](#))

September 2020 - May 2021 • Los Angeles, CA

- Team Lead for Wave Creation Kit, an internal designer-facing Unity Client SDK. Led cross-departmental "pods" to design, architect, and implement new SDK features and tools in a fast-paced production environment
- Led design and development for a key internal SDK feature that supported productions including [TOTAL FIASCO with Dillon Francis](#)
- Raised the coding standard for Wave Creation Kit including automated testing, dependency injection, and documentation
- Awarded Wave's first quarterly "Values in Action" award for outstanding impact and collaborative spirit (based on peer nominations)

### Staff Engineer, Warner Bros. Storytelling Innovation

March 2019 - August 2020 • Los Angeles, CA

- Technical Lead for Virtual Production prototyping. Scoped and built a MoCap stage, managed 11 vendor scopes over six months, and led development of five internal Unreal prototypes
- Trained WB dev team on best practices for real-time interactive software, including automated testing, performance profiling, object-oriented design patterns, code review, and distribution via package manager
- Project lead to refresh and present the [Batman autonomous car experience](#) at San Diego Comic Con 2019 with WB, Intel, and AT&T
- Member of the Academy Software Foundation USD Working Group

## VIRTUAL PRODUCTION

### Performance Capture

(live stream or recorded)

- OptiTrack
- Xsens
- Faceware Studio
- ARKit Face Tracking
- MotionBuilder
- UE4 Live Link

### Virtual Camera

- OptiTrack Insight VCS
- Glassbox Dragonfly
- UE4 VCam Plugin
- Bespoke solutions

## LEADERSHIP

(As a lead individual contributor)

- Code review
- Technical interviews
- Strategic planning
- Creative collaboration

## CONTACT

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### **Software Development Lead, NBCUniversal Media Labs**

July 2018 - February 2019 • New York, NY

- Led design and development of the HHN Hollywood in-queue AR entertainment app for iOS and Android. Acquired 30,000 users
- Ran live operations for the HHN Hollywood app, collected usage data, and presented the project postmortem to the NBC Digital Strategy team
- Presented the Skyscraper VR installation at New York Comic Con 2018

### **Software Engineer (Mixed Reality), Universal Creative**

July 2016 - July 2018 • Orlando, FL

- Designed and developed 52 AR/VR theme park attraction prototypes on a fast-paced, multidisciplinary team of engineers and artists
- Responsible Engineer for installation of the CAVU [Interactive VR Motion Base](#). Developed VR roller coaster simulations, most notably Mario Kart™. Presented to Shigeru Miyamoto and the Nintendo executive team
- Led a 10-person project over three months to create a prototype VR experience and custom ride vehicle. Presented to Steven Spielberg

### **CORE Technology Associate, Comcast NBCUniversal**

July 2014 - July 2016 • Philadelphia • Orlando • Los Angeles

- CORE Technology is a two-year rotation program for emerging leaders
- Designed and developed a wide range of software components including mixed reality theme park experiences and a REST API

### **Augmented Reality Artist, VIA Festival 2014**

September 2014 - October 2014 • Pittsburgh, PA

- Designed and developed [five augmented reality art installations](#) for a pop-up gallery at the VIA music and arts festival with [Vince McKelvie](#)
- Documented work for journalists at [Creators Project](#) and [Kill Screen](#)

## **EDUCATION**

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### **Bachelor of Computer Science and Arts**

#### **Carnegie Mellon University**

August 2010 - May 2014 • Pittsburgh, PA • University Honors

## **CERTIFICATIONS AND AWARDS**

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### **Honorable Mention Hack Niantic VPS Challenge**

January 2023 • Seattle, WA

### **Certified Scrum Master Scrum Alliance**

October 2017 • Orlando, FL

### **Finalist, Open Call for Art The Space**

December 2014 • London, UK

### **Values in Action Award Wave**

February 2021 • Los Angeles, CA

### **Going the Extra Mile Award Universal Creative**

April 2017 • Orlando, FL

### **1st Place Hack API Hackday Dallas**

July 2012 • Dallas, TX