

BLAIR LYONS

DESIGN TECHNOLOGIST

Blair builds interactive content to communicate complex ideas. Broad technical and design skillsets allow her to imagine new experiences and connect technologies to bring them to life. She has experience programming in multiple languages across the full software stack, and is quick to pick up new technologies. She began her career as a 3D animator and is intimately familiar with 3D modeling pipelines, which helps her quickly generate 3D assets for prototypes. She has been shipping products in Unity C# since 2012, most recently including apps for Virtual Reality.

Project Experience

2017 – current

Simulation Software Design Engineer

[Allen Institute](#), Seattle, WA

Lead design and development team for Simularium project. Responsible for product design, prototyping of new features, virtual reality development, and project management. Also participate in design of software architecture and user experience.

in progress

Simularium - C++, React, THREE.js, Python

As project lead, design and prototype software tools and infrastructure to allow easy access to software packages written by computational biologists through a web-based user interface and 3D visualization system. Write test models in Python, prototype features in C++, design product specification, and manage project.

“Infrastructure for Visualizing Biological Simulations in the Context of Whole Cells.” Talk 1657-Plat

The Biophysical Society Annual Meeting 2020

“Visualizing Biological Simulations to Improve Access to Simulation for Research and Learning.” Poster P2495

The American Society for Cell Biology Annual Meeting 2019

2018

[Mi-TOSS-is](#) - Unity HTC Vive

Designed and developed VR game to encourage users to interact with 3D microscopy data collected by the institute.

[After Dark: Designed by Data](#)

Exploratorium Exhibit 2019

Virtual Reality Experiences

Pacific Science Center Exhibit 2018-current

Sept 2016

[Team VRcheology @ Seattle VR Hackathon](#) - Unity HTC Vive

Wrote C# scripts to generate a virtual archeological dig and populate it with JSON data from real dig sites. Built a shovel interaction with a vive controller to dig up artefacts, wrote the majority of data import and interaction code for a successful demo.

2017 [Open Context & Carleton Prize for Archeological Visualization](#)

Contact

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Seattle, WA

Skills (years experience)

Unity3D (8)
C# (7)
Javascript (5)
Python (3)
C++ (1)
HTML/CSS
3D Data Visualization
3D Math
Platform Design

Agile (JIRA, etc)
Git

VR/AR Design/Development (5)
HTC Vive
Google Cardboard/Daydream
Oculus/GearVR

3DS Max (3)
Blender (1)
Modeling & Animation
Rigging & Skinning
Texturing

Adobe Creative Suite (8)
After Effects
Photoshop
Illustrator
InDesign

UI/UX Design
Instructional Design

+ more

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Project Experience (continued)

- 2012 – 2016 **Co-Founder, Lead Unity Developer**
[Dynamoid](#), Seattle, WA
C# programming of data visualizations, simulations, and interactive learning experiences. Participated in all aspects of production - design, art asset creation, development.
- Aug 2016 **C O S M Worlds Within Worlds** - Unity HTC Vive, Cardboard
Wrote platform for importing datasets (mostly volume data) and visualizing objects at multiple scales in C#, exported Unity objects to JSON and assetbundles, wrote editor scripts for uploading to AWS content library, and wrote importer to generate scenes from JSON in WebGL client so that users could view/edit assets on the web, built camera controls for VR and desktop.
- 2nd Place, AT&T Virtual Reality/Augmented Reality Challenge**
AT&T Developer Summit & Hackathon, Consumer Electronics Show 2017
- Feb 2016 **Allen Biology** (Vulcan) - Unity WebGL
Wrote C# simulator of neuron membrane, linked object states to output from scientific equations, designed an actions API for interfacing with a web portal. Collaborated closely with Vulcan and UW professors on project design and implementation.
- 2015-2016 **Volunteer Coding Instructor**
Girls Who Code, Garfield High School, Seattle, WA
Taught intro programming to girls once a week after school.
- Jun 2015 **Cellscience** (High Fidelity) - Javascript, Oculus
Collaborated with an educator to design an inner cellular world for High Fidelity's VR platform, managed 3D artist, wrote most JS, tested on oculus.
- Mar 2014 **Tansey Biochemistry** (Wiley) - Javascript/JQuery
Designed and built responsive pathway diagrams with an interactive drag and drop quiz function in JS for the web.
- Oct 2013 **Electrodynamics** (Moffitt Cancer Center) - Unity PC/Mac
Wrote C# scripts to handle input and simulate molecular movement in the cell with and without an "electrodynamics" force.
- 2013 Top 10 Games & Apps**
The National Science Foundation
Science and Engineering Visualization Challenge
- Sept 2013 **Internal Energy** (Wiley) - Javascript
Wrote all JS scripts for interactive multiscale water beaker with molecules that freeze or boil depending on how the user sets the temperature.
- Aug 2013 **Powers of Minus Ten port to Leap Motion** - Unity Leap Motion
Wrote C# scripts to use Leap Motion input for the iOS app.

Education

M.S. Biomedical Visualization 2011

College of Applied Health Sciences,
University of Illinois at Chicago

Learned 3DS Max, After Effects,
Actionscript, iOS development for
biomedically themed projects.

B.S. Biochemistry + Honors 2009

College of Agriculture & Life Science,
Virginia Tech

Including 2 years of computer
science and engineering coursework,
3 years of undergraduate research in
a biochemistry wet lab, with honors
every semester.

Relevant Coursework

Virginia Tech majors CS courses:
Intro to Obj-Oriented Dev (B+),
Software Design & Data Struct (A),
Intro to Discrete Math (A)

Code Samples

[Github](#)

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Project Experience (continued)

Feb 2013 | **Sugar Shake** - Unity Android/iOS
Modeled, rigged, and skinned 3D models in 3DS Max, wrote majority of Unity C# code, built, tested, and submitted to iOS and Android app stores.

Dec 2012 | **Fit2Cure** (Sayansia) - Unity Webplayer
Designed UX, wrote most C# code, and collaborated on 3D asset pipeline from Chimera to build 3D molecular jigsaw puzzle game for the web.

Jun 2012 | **Kinect Biology** - Unity Kinect
Built track experience through a 3D cell in Unity, imported 3D models, wrote all C# scripts for Kinect input and procedural animation of cell parts.

2011 – 2013 | **Scientific Animator**
Stroma Studios, Seattle, WA
Freelance 3D animator/illustrator working with researchers, textbook publishers, and biomedical ad agencies.

May 2013 | **Turtle Evolution** - 3DS Max, After Effects
Modeled and animated the rib cage of a proto-lizard morphing into a turtle shell through 5 organisms over the course of evolution.

Aug 2011 | **Transcription Factors** - 3DS Max, After Effects
Storyboarding, 3D modeling and animation, rendering and compositing

2012 **Award of Merit**
Association of Medical Illustrators
Category: Professional Animation (Visualization, Simulation)

2011 **Video Finalist**
The National Science Foundation
Science and Engineering Visualization Challenge