



# Syed Reza Ali

Product Designer · Software Engineer

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Los Angeles · California

## Mission

- I'm a product designer and software engineer with 15+ years of experience in interface and product design, real-time graphics, augmented reality and computational design.
- I specialize in creating fluid interfaces and interactive experiences for Apple platforms (iOS, macOS, and visionOS), blending technical expertise with a passion for craft and attention to detail.
- I'm looking to bring my blend of design, engineering and project management skills to a collaborative design team where I can contribute meaningfully to create empowering and delightful products.

## Highlight

- In my spare time from 2020 to Q1 2025, I designed, built and launched Valence 3D — a 3D modeling app for iPad and iPhone that empowers anyone to create 3D models with polygons and subdivision surfaces.
- Valence is the culmination of 20 years of exploration and research in real-time 3D graphics, user experience, interface and interaction design, and software engineering.
- This project involved crafting an intuitive touch based interface for 3D modeling on iOS, developing a Metal-based 3D graphics rendering engine and implementing complex data structures for mesh manipulation.
- Built using Swift, C++, C, and SwiftUI, Valence 3D has significantly deepened my expertise as a software engineer and interface designer, while also honing my skills in business, marketing, and project management.

## Experience

- 🍏 · **Apple** · Human Interface Designer Full-time · May 2025 - Present
  - Produced high fidelity software prototypes that helped inform Apple's software product features and design directions.
  - Built internal design tools that enabled other designers & engineers to prototype faster and create assets.

- 🍏 · **Apple** · Creative Technologist Contract · June 2024 - May 2025
  - Collaborated with Apple's creative team of artists and designers to develop an interactive and immersive visual experience and various prototypes to prove out ideas and strategy from project leads.

- 👋 · **Hi-Rez, Inc** · Founder · Designer · Engineer Self-Employed · June 2018 - May 2025
  - Helped clients build high-fidelity, functional, and high-performance prototypes to test out critical user journeys and highly interactive product features.
  - Contributed production level code (Swift, C, C++, Objective-C) to shipping iOS apps (Luma AI).
  - Designed novel interfaces for complex augmented reality and graphics intensive applications.
  - Clients: LumaLabs, Anima, Chroma, Nexus Studios, Syng, Apple, 3BlackDot, and Intel Studios
  - Conceptualized, designed and built Valence 3D, a 3D modeling and design app for iPad, iPhone and Mac.
  - Created SatinPro, a low level rendering engine for Apple platforms to ensure rendering in Valence 3D is buttery smooth and performant.
  - Created various novel interaction paradigms to enable intuitive polygon modeling and design on iOS.
  - Wrote a robust half-edge data structure and implemented various algorithms for mesh modification, processing, selection and rendering.
  - Designed and built Valence 3D's marketing and documentation websites: <https://valence3d.app/>
  - Valence 3D has been consistently in the top 100 paid graphics & design apps in the App Store since launch.

- 👉 · **Luma AI** · Designer · Engineer Contract · February 2022 - September 2022
  - Designed and implemented Luma's guided AR scanning interface for creating Neural Radiance Fields (NeRF) and Gaussian Splats. Implemented a highly interactive and intuitive 3D interface for scanning using Metal for rendering and computational geometry for precise placement and calculations.
  - Contributed design polish to various other product features in the Luma iOS app.
  - Prototyped a camera path trajectory editor for rendering fly through videos.

- 🍏 · **Apple** · Designer · Engineer Contract · October 2020 - September 2021
  - Designed and implemented various AR Spaces Effects in Apple's Clips app.
  - Created prototyping tools to help speed up with the design process and reduce iteration time.
  - Delivered production quality assets and shader code to Apple.

## Experience

### • Syng • Designer • Engineer

Contract • April 2020 - September 2020

- Prototyped fluid interfaces for Syng's iOS app for placing sounds in space.
- Created various visualization and interfaces for viewing and controlling music with Metal and SwiftUI.
- Collaborated with other designers to create high fidelity audio visual prototypes for playing ambient and generative soundscapes.
- Prototyped various algorithms for extracting colors in album art for use in Syng's iOS app interface.
- Created prototyping tools and code packages to enable other designers and engineers to create high fidelity prototypes that utilize Metal for visualization and dynamic interfaces.

### • Apple • Keynote Animation Engineer

Contract • July 2018 - July 2019

- Designed and implemented various dynamic (animated) backgrounds in Apple's Keynote app.
- Built parametric and generative visual systems to create beautiful, ambient, and abstract backgrounds.
- Implemented visuals systems in code using Objective-C, Metal and C++.
- Created design tools for authoring, tweaking and reviewing visual systems with key stakeholders.
- Optimized dynamic backgrounds to run at 120 fps on a 2015 Macbook Air.

### • Google • User Experience Engineer

Full-time • January 2017 - June 2018

- Worked on improving the WebXR API (web based AR and VR) by creating various prototypes that pushed its capabilities and showcased what was possible both internally and externally.
- Created numerous prototypes that explored AR interaction and interfaces with web technologies (ThreeJS).
- Open sourced WebXR demos and created low level primitives to help craft AR experiences (Model Viewer).
- Presented demos, best practices and key insights at major conferences. (FITC, Siggraph Asia)
- Created various internal design tools to help the team prototype WebXR experiences and apps.

### • Reza Studio • Founder • Designer • Engineer

Self-Employed • March 2014 - December 2016

- Developed numerous open source javascript libraries for computational design and 3D printing during my research residency at the Yamaguchi Center for Arts and Media.
- Created an immersive real-time generative art piece for Dolby's headquarters in San Francisco.
- Created 6 music videos for OK GO's 2015 live tour.
- Presented novel design methodologies and research at various conferences (AIGA, FITC and EYEO).
- Conceptualized and shipped a F3, 3D design app, that utilized signed distance fields and scripting to generate complex 3D models.

### • Autodesk • Artist • Researcher

Contract • May 2014 - December 2014

- Designed and fabricated various art objects using CNC mills, 3D printers, and laser cutters.
- Learned how to generate tool paths for various CNC machines (mills, lathes) using Fusion 360.
- Developed numerous C++ applications for visualization, 3D model generation and multi-material 3D printing.
- Was a featured content creator / maker on Instructable. Created various instructables: <http://www.instructables.com/member/syedrezaali/>

### • Nokia Research • Staff Researcher

Full-time • June 2010 - September 2011

- Created various prototypes for an augmented reality operating system using Vuzix Wrap 920 AR glasses, ARToolkit and Openframeworks.
- Conceptualized and prototyped various novel input methodologies for AR glasses. These prototypes lead to two patents filed by Nokia: US9417690B2, US20130093661A1

## Education

### M.S. in Multimedia Engineering

University of California, Santa Barbara  
Media Arts and Technology

GPA: 3.9

2008 - 2010

### B.S. in Electrical & Mechanical Engineering

Rensselaer Polytechnic Institute

Minors in Electronic Arts and Product Design

GPA: 3.97

2004 - 2008

### Technical

iOS • Swift • SwiftUI • C/C++ •  
Graphics & Real-time Rendering •  
Software Engineering • 3D Math •  
Computational Geometry • AR/VR

### Design

Interaction & Interface Design •  
Visual & Spatial Design • Graphic &  
Product Design • Computational  
Design • 3D Modeling • Rendering

### Business

Product Development • Clear  
Communication • Mentorship •  
Quantitative Analysis • Extreme  
Ownership • User Research