Ellen Lo

ellenlowing.com / ellenlowing@gmail.com / 857-204-8638 / GitHub / LinkedIn

EXPERIENCE

Freelance Creative Developer, Los Angeles, CA   Sep '19 - Present
- ✶ Hume AI: crafted procedural animations with TypeScript and React Native to visualize real-time speech prosody and audio frequency data of the AI voice assistant
- ✶ Kapu: painted generative shapes with p5.js and Rough.js to portray a digital playground in a hand-drawn style and integrated the interactions with Shopify with React and Hydrogen
- ✶ Somewhere Good: implemented consumer website and user dashboard with React, Framer Motion, and Django to allow organizers to schedule and customize events

R&D Engineer, The New York Times, New York, NY   Jul '20 - Sep '22
- ✶ Wrote performant JavaScript code to solve 3D linear algebra for games and create the Times's first AR games Shattered Crosswords and Wireloop with Spark AR Studio
- ✶ Contributed to Spark AR utilities library with interaction components, e.g. gaze selection and gesture-based control, to facilitate the development of 30+ effects
- ✶ Collaborated with multidisciplinary teams and drove development of multiple spatial stories from ideation to finish, e.g. A Tiny Frog's Climb and Inflation Shrinkray

Creative Technologist, Hypno, New York, NY   Jun '19 - Jul '20
- ✶ Deployed custom RFID scanners with Node.js on Raspberry Pi and styled iOS app with Objective-C to allow visitors to register and capture photos and videos at Color Factory
- ✶ Employed computer vision methods with Kinect to build motion-triggered photo booths
- ✶ Revised UI and RESTful API with Node.js to support live installation at Samsung 837

PROJECTS

Mixed Reality Scavenger Hunt
- ✶ Created a multiplayer treasure hunt game in Quest 3 Passthrough with Unity, where players use a grabber tool to collect out-of-reach objects localized in Two Bit Circus
- ✶ Developed the dynamic grabbing mechanic which adjusts its extended length automatically based on ray cast hit target
- ✶ Animated smooth transitions programmatically with LeanTween as objects switch between states and behaviors
- ✶ Adapted gameplay with Normcore's Realtime API to enable multiplayer capabilities

Wireloop   demo
- ✶ Reproduced the "electronic loop game" mechanics in mobile AR by anchoring 3D wires to flat surfaces with plane tracking and applying ray casting algorithms to detect intersections between the loop and the wire
- ✶ Customized particle systems and procedural physics-based materials with shaders that modify texture colors and displace mesh vertices to visualize performance
- ✶ Set up custom render pipeline to place objects and UI on separate layers that receive different lighting and post-processing treatments and combine them in the correct order

EDUCATION

Learning Sabbatical, Los Angeles, CA   Jan '23 - Present
- ✶ Attending XR Foundations and Prototyping Bootcamp with Beyond Inclusion Scholarship
- ✶ Produced XR experiments simulating Pikmin in Passthrough with Unity on Meta Quest 3
- ✶ Made Mosquito Catcher: asymmetrical 2-player webcam game with Canvas and MediaPipe

B.S. in Computer Engineering, Boston University, Boston, MA   2015 - 19
- ✶ Primary focus: computer graphics, computer vision, IoT, and embedded systems
- ✶ Knowledge of C/C++ on top of OpenGL, OpenCV, and Arduino