

# TED ARONSON

Software Designer and Developer

617.962.0033

ted.aronson@gmail.com

linkedin.com/in/theodorearonson

---

## PROFESSIONAL EXPERIENCE

---

Engineer/Designer, Contract - Somerville, MA  
Pontoco Jan 2023 - Present [www.pontoco.com](http://www.pontoco.com)

- Designing and implementing a new, hand-tracking-based input system for Pontoco's "The Last Clockwinder"
- Experimenting with novel control schemes for common VR actions such as grabbing and locomotion
- Extending the Unity Input System to support playback of articulated hand pose data
- Optimizing gesture recognition and hand physics systems for the Quest 2 headset

---

Senior Software Engineer - Waltham, MA  
Vicarious Surgical Mar 2021 - Jun 2022 [www.vicarioussurgical.com](http://www.vicarioussurgical.com)

- Created and maintained a modular GUI framework for the company's flagship product
- Identified gaps in the product's design, advocated for, and participated in the process of fixing them
- Developed simulations of UX concepts to help inform high-level product decisions
- Contributed to the UX design process through close collaboration with members of the product design team
- Assisted in gathering user feedback in formative user research studies

*Vera* - A next-generation, minimally-invasive surgical robot  
*Auto-Track* - A patent-pending, novel control scheme for single-port surgical robots

---

Co-founder, Chief Creative Officer - Boston, MA  
Cognitive, Inc Sep 2017 - Dec 2020 [www.cognitive.com](http://www.cognitive.com)

- Acted as the lead engineer and designer for a novel medial device for at-home stroke rehabilitation
- Designed an accessible and approachable game-like patient experience for an elderly userbase
- Collaborated with clinicians to ensure both therapeutic benefit and potential adoption by healthcare providers
- Created a proprietary Therapeutic Adaptive Difficulty system and integrated it into 3 rehab-focused game activities
- Optimized a complex VR experience for mobile hardware, balancing graphical fidelity and performance
- Devised techniques for remotely monitoring patient progress and usage, even with limited internet access
- Worked with Cognitive's Head of Digital Therapeutics to create ISO 13485-compliant development processes
- Registered the world's first Prescription Only Interactive Rehabilitation Exercise Device with the FDA
- Helped raise over \$500K for startup operations in fundraising pitches and investor meetings

*CognitiveVR* - FDA-registered, prescription-only medical device for at-home stroke rehabilitation  
*Escape to Crystal Cove* - VR game used as the patient interface for CognitiveVR  
*CogNet* - Data storage and processing system for clinicians using CognitiveVR  
*CognitiveVR Companion* - Remote monitoring tool for caretakers of CognitiveVR users

---

Freelance Developer - Boston, MA  
Self-employed Oct 2015 - Sep 2017

- Contracted with organizations to create educational or therapeutic game experiences to suit their needs.
- Iterated on game mechanics with input from specialists in various educational and scientific domains
- Translated established 2D game mechanics to virtual reality

*Cornucopia* - Strategy game created to supplement an educational curriculum on climate change  
*Fastbrain 2* - Improved version of the Fastbrain prototype incorporating more therapeutic activities  
*Fastbrain VR* - Series of seven prototypes of a VR-based cognitive therapeutic

---

Unity Developer - Boston, MA  
Northeastern University Jun 2016 - Jul 2017 [www.relationalagentsgroup.com](http://www.relationalagentsgroup.com)

- Maintained a Unity-based application used in HCI research at the Relational Agents Group laboratory
- Implemented and documented features for the application's domain-specific language to support student research

*RAG Client* - Scriptable, multiplatform application which acts as the front-end for experimental virtual agents

Engineer/Designer -  
Funomena

Jan 2014 - Oct 2015

San Francisco, CA  
[www.funomena.com](http://www.funomena.com)

- Partnered with external researchers to design and build several non-profit, positive impact games
- Prototyped and implemented new game mechanics for experimental game projects in the Unity engine
- Provided studio-wide development tools support

*Terra* - NSF-funded educational game to encourage healthy exercise habits as part of a middle school health curriculum

*Fastbrain* - A therapeutic videogame to improve cognition in children with 22.q deletion syndrome and related disorders

*Wattam* - A silly, experimental family game from Keita Takahashi, creator of Katamari Damacy

Software Engineer -  
MindSnacks

May 2012 - Nov 2013

San Francisco, CA  
[www.mindsnacks.com](http://www.mindsnacks.com)

- Designed the player progression system for a set of educational iOS apps, featuring over 150 'quests'
- Developed content management tools for educational content creators
- Organized the engineering and QA effort behind several major app releases

*MindSnacks Metagame* - Game-like progression system to drive player engagement with educational material

*Project New Car* - Major re-release of the core MindSnacks apps, which featured improved art and new games

Software Engineer -  
Zynga East

Sep 2010 - Apr 2012

Timonium, MD  
[www.zynga.com](http://www.zynga.com)

- Implemented gameplay changes and provided engineering support for a live game with 3 weekly content releases
- Formed and led a 3-person development tools team to assist content creation and engineering teams

*Frontierville* - A social game played by several million Facebook users per day

*New Asset Tool* - Comprehensive asset management and content creation tool to support the development of CityVille 2

Non-traditional Researcher-  
Children's Hospital of Philadelphia

May 2009 - Aug 2010

Philadelphia, PA  
[www.centerforautismresearch.org](http://www.centerforautismresearch.org)

- Designed and developed therapeutic Flash games for young children with Autism Spectrum Disorders

PUBLICATIONS AND PATENTS

- "At-Home Self-Administration of an Immersive Virtual Reality Therapeutic Game for Post-Stroke Upper Limb Rehabilitation" J. P. Salisbury, T. M. Aronson, T. J. Simon

*CHI PLAY '20: Extended Abstracts of the 2020 Annual Symposium on Computer-Human Interaction in Play - Nov 2020*

- "Virtual reality enabled neurotherapy for improving spatial-temporal neurocognitive processing"

*US Patent Application US20210265038A1 - Aug 1, 2019 (Pending)*

- "Systems and methods for controlling a surgical robotic assembly in an internal body cavity"

*US Patent Application US20220378528A1 - May 26, 2022 (Pending)*

EDUCATION

University of Pennsylvania

September 2006 - August 2010

Philadelphia, PA

- Bachelors of Science in Engineering, majoring in Digital Media Design

SKILLS AND TECHNOLOGIES

Expert

Proficient

Familiar

C#

Python

NodeJS

Vector Math

Unity Engine Optimization

ExpressJS

User Interface Design

Adobe Creative Suite

Environment Design for Games

HLSL

Django Framework

Machine Learning

Unity Engine

C++

Realtime Networking for Games

User-Centered Design Principles

Blender

Wordpress