Wiley Corning
239-281-4137
contact@wjlc.io

Education

University of Wisconsin-Madison, Madison, WI

- Computer Science graduate program (September 2020 – present)

New College of Florida, Sarasota, FL

- BA, Mathematics and Computer Science (June 2016)

- Senior Thesis: Topology of Neural Networks.
  - Explored the mathematical properties of neural networks to develop reasoning about the solutions learned through gradient descent.
  - Considered applications of this work to improve robustness.
  - In an experiment involving a small network, detected patterns in the distribution of parameters learned across many distinct training runs.

- Selected coursework:

Computer Science	Mathematics
Networks and Algorithms	Real Analysis I, II
Data Mining	Abstract Algebra I, II
Signal Processing	Complex Analysis
Digital Image Processing	Linear Programming and Optimization
Databases	Mathematical Statistics
Computer Networks	Linear Algebra
Object-Oriented Design	Ordinary Differential Equations
Theory of Computation	Discrete Mathematics
Programming II	Calculus I, II, III
	Mathematics Seminar (three terms)

Work Experience

Three Space Lab, Cambridge, Ma
Cofounder / CTO (January 2019 – August 2020)

- Worked with consultancy clients to develop an understanding of their domain space and identify project requirements
- Designed and implemented interactive software projects for clients
- Built the company website and contributed to the creation of marketing materials

MIT Media Lab, Cambridge, MA
Independent Contractor (January 2017 – January 2019)

- Developed over a dozen VR prototypes and applications, broadly focused on new techniques for collaborative education
- Engaged in user testing with students, instructors, and others through demos, workshops and focus groups; enhanced the usability of our projects with insights derived from this process
- Contributed to the design and implementation of experiments in human-computer interaction
- Co-authored papers related to VR system design and experimental results
- Exhibited our multiuser VR applications at many venues, including MIT Media Lab member events, NVIDIA's 2018 GTC DC conference, and the CSCL 2019 conference
- Supervised MIT undergraduate researchers and volunteer contributors
- Delivered lectures or workshops for two MIT courses, the Reality Virtually 2018 hackathon, and other events

Other Experience

Independent work: Realtime Network System (2019 – 2020)

- Designed API for a framework for building multi-user interactive applications
- Implemented server using .NET Core, deployed to Google Cloud in a Docker container
- Implemented high-level client framework to run in Unity3D or .NET Core
- Wrote numerous system tests
- In work role, developed a fully-functional collaborative VR app using this system

MIT / Harvard / Berklee School of Music, Teaching Assistant.
2.S972: "Designing VR Applications for Learning and Creativity" (Spring 2018)

- Responsible for student labs
- Lectured on topics in software design, VR development and graphics programming

Taught Intro to Unity Development workshops at **2017** and **2019 Reality Virtually Hackathon** and **2020 MIT Reality Hack**

Winner of **Hackers' Choice Award**, MIT Hacking Arts 2017

Selected Projects at MIT Media Lab

CrystalVR, an interactive VR system for viewing a vast database of molecular crystalline structures and exploring their symmetry properties

CocoVerse, a collaborative VR sandbox that allows users to paint and import 3D models in a shared virtual space

CocoKit, a development framework for building interactive multiuser VR applications

ElectroVR, a VR physics lab for teaching and learning electrostatics, featuring rich 3D visualizations and recorded in-VR lectures by MIT instructors

Window, a system to allow outside users to interact with people in VR by using a tablet or smartphone as a bidirectional viewport

VisionTree, an art piece in which users explore a collection of photographs by growing a virtual tree

CellClouds, a tool for collaboratively exploring and annotating high-resolution 3D biomedical scans

Publications

Greenwald, Scott W., Wiley Corning, Gaving McDownell, Pattie Maes, and John Belcher. “ElectroVR: An Electrostatic Playground for Collaborative, Simulation-Based Exploratory Learning in Immersive Virtual Reality." 13th International Conference on Computer Supported Collaborative Learning (CSCL), 2019.

Greenwald, Scott W., Wiley Corning, Markus Funk, and Pattie Maes. "Comparing Learning in Virtual Reality with Learning on a 2D Screen Using Electrostatics Activities." Journal of Universal Computer Science 24, no. 2 (2018).

Greenwald, Scott W., Wiley Corning, and Pattie Maes. "Multi-User Framework for Collaboration and Co-Creation in Virtual Reality." 12th International Conference on Computer Supported Collaborative Learning (CSCL), 2017.

Stets, Jonathan Dyssel, Yongbin Sun, Wiley Corning, and Scott W. Greenwald. "Visualization and labeling of point clouds in virtual reality." *SIGGRAPH Asia 2017 Posters*. ACM, 2017.

Greenwald, S., Alexander Kulik, André Kunert, Stephan Beck, B. Frohlich, Sue Cobb, Sarah Parsons et al. "Technology and applications for collaborative learning in virtual reality." 12th International Conference on Computer Supported Collaborative Learning (CSCL), 2017.

Professional Skills

- Background in mathematics informs approach to problem-solving
- Technical experience with machine learning, graphics programming, and networked systems
- Confident public speaker, comfortable presenting work and providing instruction
- Experience designing user experiences to meet requirements and achieve high usability
- Fluent in software design patterns and best practices

Programming Languages

- Extensive experience with C#, HLSL, JavaScript (ES6), Python, SQL, Java
- Working knowledge of Bash, R, Matlab, C++
- Tools and libraries: ReactiveX, TensorFlow, Protocol Buffers, Jekyll, WebRTC, LaTeX, Git, AWS