

GUANGYU DU

www.dugyu.com

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My interest lies in the hybrid of the physical and digital world. Beyond architecture, I also design spatial and temporal experiences through computational and interactive media. I believe the emerging responsive and immersive environments will help us consolidate memories, awaken emotions, build relationships, thus forges long-lasting social connections.

EDUCATION

Harvard University, Graduate School of Design, Cambridge, MA Master in Design Studies (MDes Technology), May 2020

2018-2020, Coursework: Computational Design, Data Visualization, CS50, Computer Graphics, Data Structures and Algorithms, Computer Vision, Immersive Landscape, Responsive Environments, Public Projection

Massachusetts Institute of Technology, Cambridge, MA

2019, Cross-registered, Coursework: Intelligent Multimodal User Interfaces, Artificial Intelligence, Architecture in Motion Graphics

Tsinghua University, School of Architecture, Beijing, CHINA

Bachelor of Architecture (B. Arch), July 2016 *5 years program completed in 4 years*

2012-2016, Architectural Design, Beijing Outstanding Graduate, Class of 2017
2016-2018, Future Scholar Fellowship, Graduate-level Parametric Architectural and Urban Design, Media Calculation and Artistic Expression

EMPLOYMENT

Data Visualization Specialist, MIT Senseable City Lab

Cambridge, MA, Aug 2020 - Present, Full-Time

Collaborate with scientists to identify research questions on the built environment and human mobility, write storyboards, design and prototype (front-end) data visualizations and platforms, compose animations and videos.

Research Assistant at Office For Urbanization, Harvard GSD

Cambridge, MA, 2020 Spring, Part-Time

Designed digital workflows for generative urban design, proposed web interface components and backend algorithms.

Teaching Assistant for Computational Design, Harvard GSD

Cambridge, MA, 2019 Fall, Part-Time

Hosted office hours for SCI6338 Introduction to Computational Design (67 students), guided student projects on Rhino & grasshopper, Unity & C#, Web & JavaScript, Processing, P5.js, D3.js. Organized student projects final review.

Software Engineering Intern, Microsoft Research Asia

Beijing, CHINA, 2019 Summer, Internship

Developed a new mixed reality Unity showcase for HoloLens 1 & 2. Incorporated Azure Spatial Anchor and ASP.NET web application for sharing persistent experience across devices. Created 3D assets and programmed MR interactions.

Architectural Intern, Robert A. M. Stern Architects

New York, NY, 2016 Summer, Internship

Assisted in the development of House in Skaneateles Project. Revised and produced detailed design drawings and schedules, created the CAD sheet set for the Design Development Phase.

SKILLS

Computational Design Rhinoceros 3D | Grasshopper | C#

Data Visualization d3.js | deck.gl | JavaScript | HTML/CSS | React + Redux

3D Graphics Three.js | OpenGL C++ | Blender | Cinema4D | Substance Painter

Game Engine + MR Unity | HoloLens + MixedRealityToolkit

Algorithms Python | NumPy | SciPy | OpenCV

Architectural Design Rhinoceros 3D | SketchUp | AutoCAD | V-Ray | Maxwell

Adobe After Effects | Premiere | Photoshop | InDesign | Illustrator

PROJECTS

Wanderlust - Universal Human Mobility Patterns

MIT Senseable City Lab, 2021. Interactive web visualization on the research *The universal visitation law of human mobility*, published in Nature. Developed a new scheme, 3D Impressionism, for visualizing recurrent mobility flows and spatial clusters of attractive urban places.

Favelas 4D - Invisible Cities in LiDAR

MIT Senseable City Lab, 2021. Research and visualization on scalable methods for analyzing urban morphology of informal settlements (Rocinha as an example) using terrestrial laser scanning data. Media Coverage: Designboom, Dezeen, CNN Brazil, EL PAÍS.

Efface - Gaze Interactive Computational Landscape

Harvard GSD, MIT CSAIL, 2019. An interactive world programmed in Unity with C#, GLSL Shader, and Tobii Eye-Tracking API. Users explore and change the colors of the landscape through gaze interaction.

Loneliness: A Social Story - Interactive Data Visualization

Harvard SEAS, 2019. Web data visualization and storytelling with D3.js, Three.js. Harvard CS171 "Best Projects" Fall 2019.

Xenolith - Me in My Virtual World

MIT SA+P, 2019. Mixed reality experience built with Unity and Adobe Premiere, mixing human subjects into surreal virtual worlds.

Engram - Immersive Virtual Landscape

Harvard GSD, 2018. A virtual world designed in Cinema4D and Unity for an immersive experience of flying over an imaginary land.

Evolving Decay - Computational Olympic Park Design

Tsinghua SoA, 2017. Parametric urban design with Rhino, Grasshopper, and Python, based on differential equations and chaotic systems.

CaveArch - Intelligent Interactive Spatial Design Interface

Tsinghua DCST, 2016. Led a three-person team on ideation, research, and coding on intelligent interface for interactive spatial design.

EXPERIENCE

Cornell Data Journal Tech Talk 2020

Guest Speaker, Topic: creative coding and data visualization.

New England Graduate Media Symposium 2019

Displaying Artist, displayed Unity project Engram.

Harvard Innovation Lab Connect Program 2019

Participated in the Harvard i-Lab Connect Program 2019 for venture Journey (Web Application), which was granted \$2500 AWS credit.

MIT Hacking Arts 2018

Awarded MIT Hacking Arts 2018 Wayfair's Prize and Fritz's Prize for Agora, an AR Art platform for creating and sharing location-based art.

XWG Archi-Studio, Beijing, China

Architectural Design, 2017. Participated in Sunshine Kaidi Industrial Park Project Schematic and Development Design Phases.

Intelligent Building System Research

Tsinghua SoA, 2016. Conducted robotic gripper design research.

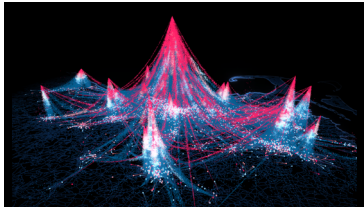
Beijing Design Week, Beijing, China

Installation Design, 2016. Assisted in project *Swarm Nest*.

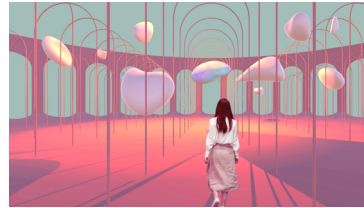
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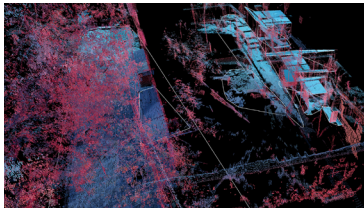
I hope to build a shared world that enables individuals to be felt, touched, and connected. It is not a mirror image of reality, but an abstraction that makes personal stories pronounced. Over the years I have been exploring its facets in generative design, multi-modal interaction, geospatial experience, and data visualization. Here are some projects along the way.



Wanderlust, 2021
MIT Senseable City Lab
Web, Data Visualization
<https://senseable.mit.edu/wanderlust/>



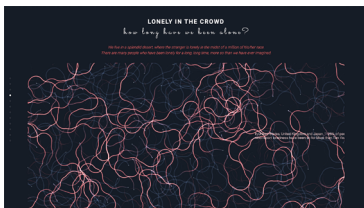
Xenolith, 2019
MIT SA+P
Unity, Mixed Reality
<https://www.dugyu.com/projects/xenolith/>



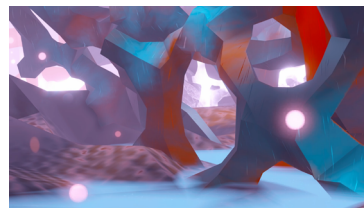
Favelas 4D, 2021
MIT Senseable City Lab
Web, Data Visualization
<https://senseable.mit.edu/favelas/>



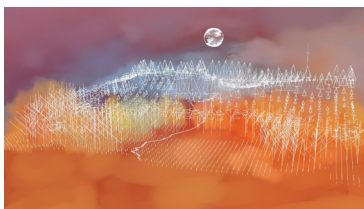
Efface, 2019
Harvard GSD, MIT CSAIL
Unity, Virtual Reality
<https://www.dugyu.com/projects/efface/>



Loneliness: A Social Story, 2019
Harvard SEAS
Web, Data Visualization
<https://www.dugyu.com/projects/loneliness/>



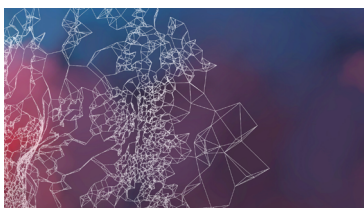
Engram, 2018
Harvard GSD
Unity, Virtual Reality
<https://www.dugyu.com/projects/loneliness/>



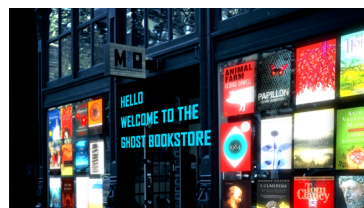
To The Moon, 2018
Harvard GSD
Computational Design
<https://www.dugyu.com/projects/tothemoon/>



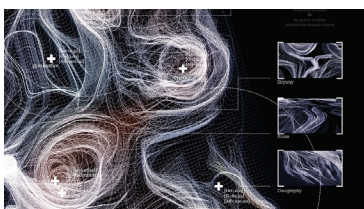
Like Mountain Like Sea, 2019
Microsoft
Unity, Mixed Reality
<https://www.dugyu.com/projects/likemountainlikesea/>



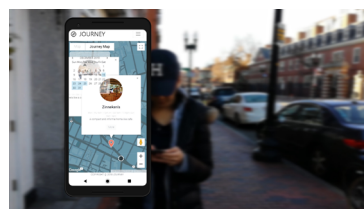
A Rose Is A Rose, 2018
Harvard GSD
Computational Design
<https://www.dugyu.com/projects/aroiseisarose/>



Ghost Boostore, 2019
Harvard GSD
Mixed Reality
<https://www.dugyu.com/projects/ghostbookstore/>



Evolving Decay, 2017
Tsinghua SoA
Computational Design
<https://www.dugyu.com/projects/decay/>



Journey, 2018
Harvard College & GSD
Web, Platform
<https://www.dugyu.com/projects/journey/>