# GUANGYU DU

**www.dugyu.com**
dugy.guangyu@gmail.com

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, 2020. Interactive web visualization on the research *The univesral 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, 2020. 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, 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*.