

ZHETAO DONG

Deep Learning Generative Modeling Computer Vision UI Design Robotics Architectural Design

PERSONAL INFORMATION

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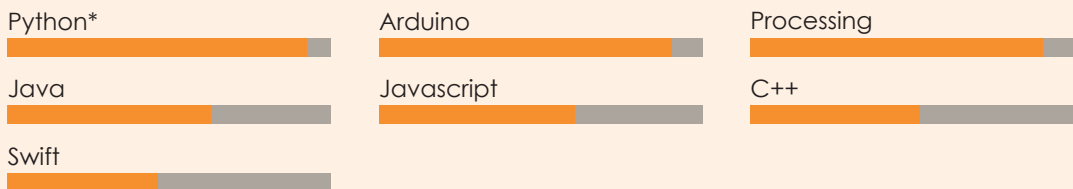
ABOUT ME

I have interdisciplinary background in computer science, psychology and architectural design. Since my master program, my focus has been developing artificial intelligent projects to manage data, aid design and facilitate robotic fabrication. I have experience managing a team of twenty volunteers for a charitable summer camp and leading teams for seminar projects.

LANGUAGES

Chinese: ●●●●● Native **English:** ●●●●● Fluent **German:** ●●●●● A2

PROGRAMMING LANGUAGES



* Fluent using libraries such as Tensorflow, OpenCV, Numpy, Panda, Matplotlib

EDUCATION

Master of Science: Integrative Technologies and Architectural Design Research
 GPA 2.0
 ICD / ITKE - Faculty of Architecture and Urban Planning
 Universität Stuttgart, Germany 2018.10 - 2020.10

Bachelor of Design in Architecture Minor in Psychology and Computer Science
 GPA 3.747 with Distinction
 College of Design
 University of Minnesota Twin Cities, USA 2014.09 - 2018.05

PROJECTS

Multi-Objective Generative Adversarial Networks 2019.10 - 2020.10
 Master Thesis

- Used BwUniCluster and Google Colab for training MOGAN. Codes were written in Python and Grasshopper. Applied libraries including Tensorflow, Numpy, Matplotlib, etc.
- Conducted an in-depth study of design theories to propose a framework whereby a computer can holistically combines multiple classes of information in a generative system to generate design solutions using data-driven method.

Granular Design 2020.01 - 2020.02
 Master Seminar Project

- Trained a convolutional autoencoder using topographic data and satellite images obtained from the *Google Maps API*. And interfaced an XBOX 360 Kinect to scan topography data from a sandbox to infer potential landscape imagery.
- Created a tactile design tool which a user may generate synthetic landscapes from a sand-crafted topography.

Rolling Stool

Master Seminar Project

2019.11 - 2020.02

- Simulated the rolled and the flattened geometries in Rhino and Grasshopper, and used Karamba and Galapagos to optimize the geometry and inform fiber layout.
- Designed and crafted a stool made of natural fiber composite using an innovative cost-effective waste-free molding technique through rolling.

ITECH PAVILION 2020

Master Design Studio

2018.10 - 2019.10

- Digitally modeled natural fiber winding paths in Rhino and Grasshopper and provided digital supports for robotic fabrication and structure analysis teams.
- Proposed various design iterations for the pavilion in Botanical garden of Freiburg. Collectively designed and crafted scaled model of final pavilion.

Robotic Sensorship

Master Seminar Project

2019.06 - 2019.07

- Trained a convolutional autoencoder using topographic data and satellite images obtained from the Google Maps API. And interfaced an XBOX 360 Kinect to scan topography data from a sandbox to infer potential landscape imagery.
- Created a tactile design tool which a user may generate synthetic landscapes from a sand-crafted topography.

Dashboard Interface Design and Development for Student Formula Car

Student Formula

2019.02 - 2019.04

- Used Adobe Illustrator to design and create contents for the dashboard interface used in student formula racing car.
- Developed the software for the dashboard interface using Qt. The front end is written in Javascript and the backend used C++ and CAN-Bus to interface vehicle data.

Physarum Polycephalum: Birth, Death & Habituation

Master Seminar Project

2019.01 - 2019.02

- Programmed agent behaviors of Physarum Polycephalum using Python in Rhino and Grasshopper environment to simulate its birth, death, and habituation behaviors.
- Generated and 3D printed intricate geometries using agent-based modeling.

Optimized Truss Bridge

Master Seminar Project

2018.12 - 2019.02

- Used Karamba and Galapagos in Grasshopper for multi-objective optimization to minimize the self-weight and displacement of the truss system.
- Programmed the generation of a truss bridge through parametric modeling.

A Catalog of Difference

Research Project

2016.05 - 2018.05

- Optimized grasshopper algorithms developed by Professor Lucia
- Explored and proposed potential research directions
- Produced exhibition contents by adapting various workflows using multiple programs
- Assisted on curating exhibitions.

Li-Form

Undergraduate Design Project

2017.01 - 2017.05

- Applied biomimetic thinking by researching the skin of Cuttlefish, which changes color and texture to protect itself.
- Developed a membrane that changes its color and texture as an ever-changing model taking light as an input and adapt itself accordingly.
- Designed and produced components controlled by Arduino.
- Used Ladybug component in grasshopper for sunlight analysis for geometry prediction.

Depth

Undergraduate Design Project

2016.01 - 2016.05

- Used Processing to generate images with a sense of depth, and constructing models to capture that perceptual space.
- Designed and crafted models, one of which used arches floating in the space as frames for winded strings.

EXPERIENCE

Team Member

Rennteam Uni Stuttgart

2019.01 - 2019.05

- Used graphic programs, such as Adobe Photoshop, Illustrator, and InDesign for various graphic design tasks.
- Designed and developed graphic interface for the vehicle using Qt widget toolkit.

Research Assistant

Professor Andrew Lucia, College of Design, University of Minnesota

2016.05 - 2018.05

- Produced materials for Professor Lucia on his research project, A Catalog of Difference, using various programs, including grasshopper, Rhino, 3ds Max, Netfabb, Processing, etc.
- Coordinated and prepared exhibits with 3D print and digital models for exhibitions.
- Curated "A CATALOG OF DIFFERENCE" exhibition at HGA Gallery, UsagiNY, and AA[n+1].
- Awarded "Student Design and Scholarship Excellence Award" at University of Minnesota.

Assistant Project Coordinator

Capital Planning & Project Management, University of Minnesota

2016.01 - 2018.05

- Maintained accurate and updated information in network system.
- Gathered and dispensed needed information and updates to coordinate constructions.
- Involved in projects such as John T. Tate Hall renovation and Athletes Village construction.

Volunteer in Church

Chongyi Church, Hangzhou, China

2009.05 - 2018.10

- Voluntary teacher of Sunday school for primary school children from third to sixth grade
- Worked as a manager to coordinate a twenty-person volunteer team to organize a charitable summer camp for sixty children.

AWARDS

Fall Semester 2015

Dean's List

Spring Semester 2016

Dean's List

Fall Semester 2016

Dean's List

Spring Semester 2017

Dean's List

Fall Semester 2017

Dean's List

Spring Semester 2018

Dean's List

2017.05.04

Student Design and Scholarship Excellence Award

2014.09 - 2018.05

International Excellence Scholarship

SKILLS

Modeling Tools

Rhinoceros (grasshopper)



AutoCad



SketchUp



Revit



3Ds Max



Graphic Tools

Adobe (Ps, Id, Ai)



VRay



Keyshot



Lumion



Other Tools

Microsoft Office Programs



Google Online Office Programs



Adobe (Dw, Ae)



Terminal (Linux, Mac)



Unity

