MARIA VLACHOSTERGIOU

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PORTFOLIO

- www.embodiedesign.com

AREAS OF INTEREST

- Computational & Parametric Design
- Physical/Interactive Computing
- User-centered Design for Disability
- Sensory Substitution/Augmentation
- HCI for Accessibility & Assistance
- Fabrication of Active Materials & self-sensing/self-morphing wearables

TECHNICAL SKILLS

Software applications: Autocad, Rhino, Grasshopper, Adobe Photoshop, Unity, Axure, Principle
Programming languages: Python, C/C++ (Arduino), JavaScript (p5.js), C# (Unity)
Electronics: Basic circuit & PCB design
Fabrication: 3D Printing (SLA, FDM), Laser cutting, Mold casting for pneumatically actuated robots

EDUCATION

Master of Science, Computational Design, Expected in 05/2021
Carnegie Mellon University - Pittsburgh, PA

- Received Graduate Fellowship for studies
- Coursework in Computing, Human-Computer Interaction, Programmable Materials, and Assistive Design

Master of Science, Design Research, 06/2016
National Technical University Of Athens - Athens, Greece

- Graduated in Top 1% of Class with 10.0|10.0 GPA
- Coursework in Research by Design, Computational Design and Theory

Master Diploma, Architectural Engineering, 07/2016
National Technical University Of Athens - Athens, Greece

- Thesis published: DIAGRAMS, the spatial constructions of movement
- Coursework in Architectural Design and Structural Engineering

WORK EXPERIENCE

Curatorial Assistant, 01/2020 - Current
'Vers Un Imaginaire Numerique' Exhibition, Montreal, Canada

- Spatial design of the gallery's layout
- Classification of the exhibits into themed zones and subcategories that present the evolution of computational practices across design, engineering and arts
- Design the users' embodied experience with the exhibits (historical archives, contemporary artifacts and interactive installations)

Research Assistant in Human-Computer Interaction, 01/2020 - Current
Morphing Matter Lab, Carnegie Mellon University, Pittsburgh, PA

- Collaboration with material, mechanical and biomedical engineers to develop healthcare-oriented devices that use active materials to address both functional and social aspects in medical design
- Conduction of user studies with medical experts and prosthetic users
- Body-centered Design & Fabrication of programmable wearables like:
- ExoForm project: a self-assembling, self-fusing and customized material system that employs CAD systems and 4D printing to computationally design and fabricate morphing orthotics or facial respirators
- Mermaid Effect project: modelling and fabrication of moving effects for bio-inspired, soft robotic wearables that employ pneumatic or hydraulic actuation to augment the underwater experience of prosthetic users

Teaching Assistant for UI Design, 09/2020 - 12/2020
Carnegie Mellon University, Pittsburgh, PA

- Graduate course: Architectural Interfaces: Virtual Platforms for Intuitive Fabrication
- Provided consulting and guidance concerning the development of rule-based building systems in the form of game applications
- Provided consulting and guidance concerning the prototyping of UI games, by designing the virtual environment, the user's experience and interaction in Unity

Graduate Research Student, 01/2019 - 06/2019
National Technical University Of Athens, Athens, Greece

- Organized sensorimotor experiments to explore how spatial elements like distance, shape and orientation are perceptually distorted when vision is deprived
- Included both enabled and disabled individuals
- Studied the role of action in vision, touch and audition, as well as the roles of cross-modal coordination and intermodal transfer in spatial perception

Teachning Assistant for Algorithmic Design, 03/2019 - 06/2019
National Technical University Of Athens, Athens, Greece

- Undergraduate Course: Algorithmic and parametric modelling for architectural design
- Provided consulting and guidance concerning the design of industrial forms that satisfy both functional and aesthetic standards, by developing visual algorithms in Grasshopper for Rhinoceros
- Provided consulting and guidance concerning the fabrication and assembly of organic designs into physical models by using rapid prototyping technologies such as Laser Cutting and 3D printing

Instructor in Fabrication & Industrial Lab, 10/2018 - 06/2019
National Technical University Of Athens, Athens, Greece

- Provided consulting and guidance concerning the use of hand tools & CNC prototyping techniques to fabricate and assembly advanced physical models

Computational/Interaction Designer, 09/2018 - 12/2018
National Opera Of Greece, Athens, Greece

- Integrated interactive and computational media into the performative act of Opera 'Electra' by J. Straus
- ELECTRES project: an audiovisual black box that turns the attendance of Opera 'Electra' into an immersive, dynamic and full body experience

Architect Engineer, 09/2017 - 12/2018
Vlachostergios & Associates, Athens, Greece

- Conducted the architectural design of two residencies in Kifissia area
- Drafted 2D and 3D designs, using AutoCAD, Rhino and 3D Max software.