

Evangelos Pantazis

Ph.D. Candidate at the University of Southern California
Research Assistant | Teaching Assistant | Computational Designer

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ACADEMIC DEGREES

Doctor of Philosophy in Civil and Environmental Engineering (Ph.D.)

August 2019

University of Southern California, Viterbi School of Engineering, USC

Advisor: Prof. David Jason Gerber

Masters of Computer Aided Architectural Design (MAS)

February 2013

Swiss Federal Institute of Technology in Zurich, ETH

Advisor: Prof. Ludger Hovestadt

Diploma in Architecture (Dipl.)

July 2010

Aristotle's University of Thessaloniki, Polytechnic School, Dept. of Architecture

Advisor: Prof. Stavros Vergopoulos

RESEARCH INTERESTES & EXPERIENCES

Research Interests

- Development of generative design strategies based on a Multi Agent Systems Approach for exploring and evaluating architectural design alternatives.
- Integration of agent based modelling, environmental and structural analysis for improving design exploration of free form shells in the early design stage
- Generative Design of building components (i.e. façade panes) based upon the integration of daylight simulation data and users' lighting preferences obtained through immersive virtual.
- Novel and automated design to construction workflows which are based upon the principles of digital and robotic fabrication constraints.
- Autonomous robotic construction using task specific low level robots designed to operate collaboratively for performing simple construction activities
- Holistic Design approaches inspired by Complex Adaptive Systems for managing design complexity across the fields of architecture, engineering and construction (AEC)

Research Experience

Behavioral Form Finding (USC, USA)

Jan. 2014-Aug.2019

Ph.d. Thesis Chair, Advisor: Dr. David J. Gerber

Research Sponsor: NSF [Award Number: 1231001], Onassis Foundation

- Developed a computational design methodology for integrating agent based modelling with environmental and structural analysis in the early design stage
- Developed a Multi Agent Systems Framework for automating the generation and evaluation façade designs based on their environmental performance
- Proposed a prototypical design toolkit that uses stochastic optimization to explore design alternatives based on multiple objectives.
- Stochastic analysis of the relationship between the position of windows in different locations and the amount of daylight in office spaces
- Simulated and visualized the influence of users' lighting-related behaviors and preferences on the amount of energy consumption in order to define occupant-behavior models.

• **Embodied Swarm Intelligence** (BUILDSpace, USA/ES)

Apr. 2017-Aug. 2017

Research / Builder in Residence at BUILDSpace

Research Sponsor: Autodesk Inc. & Institute of Advanced Arch in Catalonia (IAAC)

- Investigated the emergent formation of 2d structures with different functional properties by mechanically controlling the behavior of low level swarm of robots instead of applying software control mechanisms
- Established an experimental design setup for designing, simulating and physically testing the interaction of a large amount of swarm robots in different environments.
- Designed and manufactured a prototypical robotic platform (bristle bot) using the principles of BEAM robotics (Biology, Engineering, Aesthetics and Mechanics). The objective was to study the impact of changing specific geometric features on the behavior and locomotion of the robot (embodied intelligence)

• **IDEA Studio** (Autodesk, USA)

June 2014-Aug. 2014

Researcher under the supervision of Prof. David Gerber and Burcin Becerik-Gerber

Research Sponsor: Autodesk Inc.

- Defined a user-centered approach for improving the design of commercial buildings by defining a bottom-up design approach to account for user's needs and behaviors.
- Integrated the use of immersive virtual environments for establishing a design feedback loop between the end-users and designers to effectively improve the design of buildings according the end-user's needs and preferences (collaborative work).
- Got the opportunity to work along Autodesk's research teams and get hands-on experience on Autodesk visionary and emerging technologies and software development teams, namely:
 - The *Design and Fabrication* team focusing on digital fabrication and advanced manufacturing technologies.
 - The *User Interface Research* team focusing on advancing the human-computer interaction technologies (hardware and software) by accounting users' specific needs and behavioral changes.

• **Meta Predictive Matter** (ETH, CH)

Jan. 2012-Jan 2013

Master Thesis Chair, Advisor: Dr. Ludger Hovestadt

- Developed and implemented an automated design to construction workflow for two large scale structures using an industrial robotic arm
- Defined a novel approach for generating and materializing textures using Principal Component Analysis

- Implemented a genetic algorithm for optimizing the subdivision of generated geometries in tiles for their materialization using 3d printing.
- Studied the application of smart materials in architectural design and manufactured samples of smart materials such as Dye Sensitized Solar Cells, Electroactive Polymers and Bioplastics
- **Bridging Digitally Design & Fabrication** (AUTH, GR) **Aug. 2009-Feb. 2010**
Diploma Thesis Chair, Advisor: St. Vergopoulos
 - Developed algorithmic design strategies for the generation of building structure on a quarry using the geometry of basic crystalline structure of limestone (truncated icosahedron)
 - Reviewed the literature regarding the application of digital design tools and digital fabrication techniques in architecture and produced the first report and catalogue (in Greek language) for the impact of CNC technologies in building construction.
 - Became familiar with academic research process

PUBLICATIONS

Peer-reviewed Journal Papers

1. **Pantazis, E.** (2019) "Behavioral Form Finding: Interactive Shell design using Multi Agent Systems", in *ARCHIDOCT e-journal*, Vol 13, Kontovourkis O., Ed., European Network of Heads of Schools of Architecture (ENHSA) (accepted, in press).
2. **Pantazis, E.** and Gerber, D. (2018): Beyond Geometric Complexity: A Critical Review of Complexity Theory in Architecture, *Architecture Science Review Journal*, Vol 60, 7. (accepted, in press)
3. **Pantazis, E.**, and Gerber D. (2018): "A framework for generating and evaluating façade designs using a multi-agent systems approach", *International Journal of Architectural Computing*. Vol 16, p. 248-270
4. Gerber, D., **E. Pantazis** and A. Wang (2017): A multi-agent approach for performance based architecture: Design exploring geometry, user, and environmental agencies in façades, *Automation in Construction*, 76, p. 45-58.

Book Chapters-

1. Koc E., **Pantazis, E.**, Soibelman L. and Gerber D. (2019): "Industry 4.0: Emerging Trends and Research Derection", in *Construction 4.0- Innovation Platform for the Built Environment*, Sawhney A., et. Al, Ed., Taylor&Francis, Oxford,UK (in press)

Peer-reviewed Conference Papers

1. **Pantazis, E.** and Gerber, D. J., (2020) "Behavioral Form Finding: A Multi Agent Systems framework for Environmental Aware form finding of shell structures ", in *Design With All Senses, Design Modelling Symposium 2019*, C. Gengnagel, et al., Editors, Berlin, Germany.
2. **Pantazis, E.** and Gerber, D., (2019) "A Multi Agent Systems framework for integrating environmental parameters in the design of shell structures", in *26th International Workshop on intelligent Computing in Engineering*, P. Geyer, et al., Editors, Leuven, Belgium.
3. **Pantazis, E.** and Gerber, D., (2017) "Emergent order through swarm fluctuations- A framework for exploring self-organizing structures using swarm robotics, in ShoCK!- Sharing Computational Knowledge!- Proceeding of the 35th eCAADe Conference, A. Fioravanti, et al., Editors, Sapienza University of Rome, Italy p. 75-84
4. Heydarian, A., **Pantazis, E.**, Gerber, D., and Becerik-Gerber, B. (2016). "Defining Lighting Settings

- to Accommodate End-user Preferences while Reducing Energy Consumption in Buildings.” *Proc. Construction Research Congress*, pp. 1122-1132.
5. **Pantazis, E.** and Gerber, D. (2016): “Design Exploring Complexity in Architectural Shells- Interactive form finding of reciprocal frames through a multi-agent system”, in *34th eCAADe: Complexity and Simplicity* A. Herneoja, et al., Editors, Oulu, Finland.
 6. Marcolino, L.S., Xu, H., Gerber, D., Kolev, B., Price, S., **Pantazis, E.**, and Tambe, M. (2016): Multi-agent Team Formation for Design Problems, in *Coordination, Organizations, Institutions, and Normes in Agent Systems XI*, V. Dignum, et al., Springer.
 7. **Pantazis, E.**, Gerber, D. and Wang, A. (2016) “A Multi Agent System for Design: Geometric Complexity in support of Building Performance” in *Symposium for Modelling and Simulation in Architecture and Urban Design (SIMAUD)*, Ramtin, A., et al., Editors, pp 137-143, London, UK.
 8. Gerber, D., **Pantazis, E.**, (2016) “A multi-Agent System for Design: A design methodology for Design Exploration, Analysis and Simulated robotic fabrication”, in *ACADIA16: Posthuman Frontiers*, Velikov, K.,et al.,Editors, p 12-21, University of Michigan, Ann Arbor, Michigan.
 9. Gerber, D., **Pantazis, E.**, and Marcolino L.S. (2015) “Design Agency” in *Computer Aided Architectural Design Futures. The Next City- New Technologies and the Future of the Build Environment*, Celani, G.,et al., Editors, Springer, p 213-235, Sao Paulo, Brasil.
 10. Heydarian, A., A., Carneiro, J.P., **Pantazis, E.**, Gerber, D., and Becerik-Gerber, B. (2015). “Default Conditions: A Reason for Design to Integrate Human Factors.” *Sustainable Human-Building Ecosystems*, pp. 54-62.
 11. Heydarian, A., **Pantazis, E.**, Carneiro, J.P., Gerber, D., and Becerik-Gerber, B. (2015): “Towards Understanding End-user Lighting Preferences in Office Spaces by Using Immersive Virtual Environments”. *The International Workshop on Computing in Civil Engineering*, pp. 475-482.
 12. Gerber, D., **Pantazis, E.**, Marcolino, L., Heydarian, A., (2015): “A Multi-Agent Framework for Simulation of Cyber Physical Social Feedback for Architecture.” *The Symposium on Simulation for Architecture and Urban Design (SimAUD)*, pp. 205-212.
 13. Heydarian, A., Carneiro, J.P., **Pantazis, E.**, Gerber, D. and Becerik-Gerber, B. (2015): Default Conditions: A Reason for Design to Integrate Human Factors, in *Sustainable Human–Building Ecosystems*. p. 54-62.
 14. Heydarian, A., **E. Pantazis**, J.P. Carneiro, D. Gerber and B. Becerik-Gerber(2015): Towards Understanding End-User Lighting Preferences in Office Spaces by Using Immersive Virtual Environments, in *Computing in Civil Engineering*. ASCE, pp.475-482.
 15. Heydarian, A., **Pantazis, E.**, Gerber D. and Becerik-Gerber B.(2016): Defining Lighting Settings to Accommodate End-User Preferences While Reducing Energy Consumption in Buildings, in *Construction Research Congress 2016*. pp. 1122-1132.
 16. Marcolino, L.,Price, S., **Pantazis, E.** ,and Tambe, M. (2015): Multi-agent Team Formation for Design Problems, in *Coordination, Organizations, Institutions, and Normes in Agent Systems XI: COIN 2015 International Workshops, COIN@ AAMAS*. Springer, 354, Istanbul, Turkey,
 17. Marcolino, L.S., Gerber, D., Kolev, B., Price, S., **Pantazis, E.**, Tian, Y. and Tambe, M. (2015): Agents vote for the environment: Designing energy-efficient architecture, in *AAAI Workshop on Computational Sustainability*.
 18. Marcolino, L.S., Xu, H., Gerber, D.,Kolev, B., Price, S.,**Pantazis, E.** and M. Tambe (2015): “Agent teams for design problems”, in *COIN@AAMAS*, p. 189-195, Istanbul, Turkey.
 19. **Pantazis, E.** and Gerber, D. (2014): “Material Swarm Articulations- New View Reciprocal Frame Canopy”, in *32nd eCaade: Fusion*, E. M. Thompson, et al., Editors, pp 463-473, Newcastle England

POSTERS AND PRESENTATIONS

1. **Pantazis, E.**, Vermisso M., Sadegh J. (2016) “Emergent Pattern Formation via Embodied Encoding of Bristle Bots”, in ACADIA 16 PostHuman Frontiers, Velikov, K.,et al.,Editors, pp. 328-332, Ann Arbor, Michigan.
2. Heydarian, A., **Pantazis E.**, Gerber D. and Becerik-Gerber B. (2015): Use of Immersive Virtual Environments to Understand Human-Building Interactions and Improve Building Design, in *HCI International 2015-Posters' Extended Abstracts*. Springer, p. 180-184, Los Angeles, California.
3. **Pantazis, E.**, Gerber D., Pantazis J. (2014) “New View-Reciprocal Frame Canopy”, in ACADIA 14 Proceedings Design Agency, Gerber, D.,et al.,Editors, pp. 127-130, Los Angeles, California.

SKILLS

- Specialist in Agent Based Modelling, Parametric Modelling, Building Information Modeling (BIM), Energy and Environmental Simulations (i.e., EnergyPlus, Daysim, Radiance) and Structural Analysis (i.e. Abaqus, Sofistik, Karamba).
- Programming: Fluent in Java, Processing, Python, Visual Basic, C++, C# , and HTML
- Visual Programming: Fluent in Grasshopper, Dynamo
- Design tools: Proficient in Rhinoceros 3D, Autodesk Revit ,Maya, Fusion, Navisworks, Solibri, Synchro, Primavera (P6), Unity 3D, Adobe Suite, RhinoCAM, AlphaCAM
- Linguistic: Fluent in English, German, Greek (native), Very Good in Spanish and Portuguese

INVITED TALKS AND LECTURES

1. **Pantazis E.**, (Fall 2018) – “Schemata.”, Invited Guest Speaker for the TransLAB Ph.d. Seminar at the University of California Santa Barbara – Media Arts and Technology Program.
2. **Pantazis E.**, (Summer 2018) – “Mini Builders”, Invited Guest Speaker for the “Fab-Lab Meet-Ups” at the Institute of Advanced Architecture in Catalonia (IAAC) in Barcelona.
3. **Pantazis E.**, (Spring 2018) – “More is Different”, Invited Guest Speaker for the “Parametric design in Architecture” Master’s Program at the Metropolitan School of Architecture/Polytechnic School of Catalunya (ETSAV) in Barcelona.
4. **Pantazis E.**, (Spring 2018) – “Designing Behaviors”, Invited Guest Speaker for the BH University at the Los Angeles office of Buro Happold Engineering.
5. **Pantazis E.**, (Summer 2017) – “Investigating embodied behaviors using Swam Robotics”, Invited Guest Speaker for the “Spot Light Lecture Series” at the Autodesk Build Space in Boston.
6. **Pantazis E.**, (Spring 2017) - “Form Finding Reciprocal Structures” Guest Speaker at the Texas A&M University/ College of Architecture.
7. **Pantazis E.**, Bogosian Biayna (Fall 2016) - “Sensing Kites” Workshop tutor and Guest Speaker on how to fabricate kites for sensing urban air pollution at the Sidney Harman Academy for Polymathic study, in the University of Southern California.
8. **Pantazis E.**, Heydarian, A., and Tian Y (Fall 2014) - “RILAO Tetra Forming – Virtual Reality Experience.” 5D Science of Fiction Conference in Los Angeles.

9. **Pantazis E.** (Summer 2014) - "New View Research Pavilion" Presentation of prototypical structure and invited Guest Lecture at the Romantso incubator in Athens, Greece.

HONORS AND ACHIEVEMENTS

- Featured researcher at the Future Cities Exhibition at IAAC, Barcelona/Spain 2018
- Recipient of Grammel Fellowship from the Viterbi School of Engineering, Los Angeles/USA 2017-2018
- Recipient of Myronis Fellowship, Los Angeles/USA 2016–2017
- Work selected to be featured at the Greek Pavilion of the Venice Architecture Biennale, Venica/Italy 2016
- Recipient of Gerondelis Foundation Excellence Award, Los Angeles/USA 2015
- Recipient of Onassis Foundation Scholarship, Athens/Greece 2014
- Recipient IKEA Stiftung Design Award, Zurich/Switzerland 2013

TEACHING EXPERIENCE

- **Building Science II, ARCH305B, USC** **Spring 2018**
Guest Tutor

Senior undergraduate course focusing on exploring design alternatives of various paneling systems using wood and plastic with emphasis on performance based design. The course objective is to introduce students to parametric and environmental modelling in the early design as well as teach the students how to evaluate alternative using daylight simulations.

My responsibilities included:

- Provided students with in-depth understanding of parametric design methods and daylight simulations
- Delivered introductory tutorials on using visual scripting editors for generating designs and analytical solvers for evaluating alternatives
- Introduced students to daylight simulations with Energy Plus and Radiance software using Grasshopper/Ladybug, Honeybee plugins
- Assisted students on their assignments and projects.

- **Sustainable Design and Construction, CEE469, USC** **Fall 2018**
Teaching Assistant

Graduate level course construction management, which is focused on introducing students to green-building design strategies and the potential benefits of adopting such approach. The objective of the class is to provide students with resources and references from Green Building Examples as well as prepare them for taking the LEED GA and LEED PA exams. My responsibilities included:

- Provided students with in-depth understanding of LEED standards.
- Prepared assignments, quizzes, mid-term and final exams.

- **Parametric Design, ARCH590, USC**
Spring/Fall 2016
Co-Instructor with D. Gerber

Graduate level course focusing parametric design and Building Information Modeling (BIM) using

visual programming (Grasshopper and Dynamo). The course is taught with a focus to take existing designs (i.e. Erwin Hauer) and to model them for digital, physical and rapid prototyping. The course explores the design development of a small in scale and scope project to be digitally prototyped and then physically prototyped. My responsibilities included:

- Provided students with in-depth understanding parametric design and digital fabrication Techniques.
 - Provided tutorials to introduce students to Rhinoceros 3d/Grasshopper software and assist them on their assignments and projects.
 - Introduced students in parametric Environmental Modelling using Energy Plus / Radiance via Ladybug and Honeybee tools.
 - Developed experimental case studies for the students' projects.
- **Directed Research/ Agent Based Modelling, ARCH490,USC**
Fall 2015
Co-Instructor with D. Gerber

Graduate level course where students are introduced into agent based modelling and simulation for exploring the design of free form shells. My responsibilities included:

- Provided students with in-depth understanding of Complex Adaptive Systems and their relation to evolutionary design strategies
 - Provided tutorials to introduce students to the use of Processing/IGEO IDE and assisted them in developing a project
 - Developed an experimental case study using a traditional structural systems that students used to explore agent behaviors
- **Special Topics/Informed Form, ARCH599, USC** **Spring 2015**
Co-Instructor

Graduate level Design research seminar investigating the relevance of architectural form as a product of discovery by exploring the reciprocity between form (geometry), force (performance), matter (organization) and digital craft (fabrication). The objective of the course is to understand performance as a design catalyst for the exploration of form. My responsibilities included:

- Provided students with examples of structural design and funicular form and its applications within architecture,
- Provided tutorials on visual programming for form finding using Grasshopper and Kangaroo platforms.
- Introduced students in Finite Element Analysis and its implementation using Karamba solver.
- Assisted students on their design project and assignments.

- **Project Controls–Planning and Scheduling,CEE566, USC** **Spring/Fall 2014-16**

Teaching Assistant

Graduate level course focusing on fundamental principles and practices of planning, critical path method scheduling, and resource allocation. The course also used Primavera 6 (P6) software program for CPM scheduling and resource allocation. My responsibilities included:

- Provided students with in-depth understanding construction planning and scheduling.
- Provided study sessions to introduce students to Primavera 6 Software and assist them on their assignments and projects
- Created Video Tutorials on using the Primavera 6 Software
- Prepared & graded assignments, mid-term and final exams.

- Designed and managed the course webpage
 - Assisted students on their assignments and projects.
 - Designed and managed the course webpage and the course grader.
 - Held office hours to instruct students on lecture materials and assignments.
- **Introduction to Computer Graphics, CEE107, USC**
Spring 2014
Teaching Assistant

Introductory course to engineering drawings and CAD software for civil engineering students. The course was designed to get students introduced to Autocad, Revit and Civil-3D software. The course was a project-based class where students had to use Revit to deliver their final project. My responsibilities included:
 - Delivered introductory lectures on the use of AutoCAD & Revit
 - Provided students with understanding of digital design tools.
 - Assisted students during class to follow the course material and did in class tutorials.
 - Managed course materials and graded assignments.
 - **Directed Research, Chair for Structural Mechanics, ETH** **Mar. 2013-**
Aug. 2013
Scientific Assistant / Zurich, Switzerland
 - Assisted students from the dept. of Structural Mechanics to model complex structural designs and rationalize the geometry for 3d prototyping.
 - Conducted preliminary research on the application of Functionally Graded Materials in the building industry under the supervision of prof. E. Chatzi.
 - **Directed Research, Chair for Computer Aided Arch. Design, ETH** **Dec. 2011-**
Feb. 2013
Scientific & Helping Assistant / Zurich, Switzerland
 - Assisted the organization of smart material workshops held by researcher Kretzer M,
 - Produced samples from smart materials a) Electro Active Polymers, b) Dye Sensitized Solar Cells, c) Bioplastics, d) Electroluminescent displays
 - Implemented and produced models for initial stages of the “Digital Grotesque” project by researcher B. Dillenburger.
 - Produced documentation material and videos for research projects.

PROFESSIONAL EXPERIENCE

- **Buro Happold Engineering** **Aug. 2018-**
Nov. 2018
Computational Design Intern
Los Angeles, CA
 - Assisted in the development of the code-base for Buro Happold’s US internal Software platform.
 - Developed scripts for solving project based challenges of design rationalization and optimization.
 - Developed best practices for script sharing and development.

- Implemented computational workflows and created custom tools to visualize analytical results with minimal overhead.
- **Research scholar at Autodesk** **June 2014-Aug. 2014**
Research Fellowship / Autodesk, San Francisco, CA
 - Worked in a collaborative team of researchers from USC and researchers, engineers, and architects at Autodesk.
 - Got the opportunity to work along Autodesk's research teams and get hands-on experience on Autodesk visionary and emerging technologies and software. Specifically, I got the opportunity to become familiar with different research teams, including:
 - The *Design and Fabrication* team focusing on new generative design tool that integrate evolutionary processes and advanced manufacturing technologies.
 - The *Design Research* team focusing on new, innovative user experiences for deeply understand users' need and behaviors.
- **Topotheque Design Research Studio** **Sept. 2011-...**
Co-Founder / Architect & Computational Designer / Ioannina, Greece
 - Research and Product development for "ENLITE", a start-up company specializing in wooden sunglasses including: parametric models, rapid prototyping, material tests, molds
 - Parametric modelling, preparation and production of CAM files and fabrication management for bespoke furniture and products.
 - Architectural design and Building Information Modelling of small scale architectural design projects (single family houses, hostels)
 - Design to construction workflows and construction management of a restoration of a 2 storey building within an Unesco protected settlement
- **Studio Pei Zhu** **Nov. 2010-Aug. 2011**
Project Architect / Computational Design / Beijing, China
 - "NAMOC", Preliminary study. Computational designer in the invited competition for the new National Arts Museum of China. Developed scripts for generating different structural and facade schemes.
 - "Louis Vuitton's Beijing maison", Preliminary Study. Lead designer and project manager in an invited competition for the firm's new flagship store in Beijing
 - "Minsheng Art museum", Design Development. Lead designer of a large scale art gallery at the 798 District in Beijing.
- **Graftlab Architects** **June 2008-Nov. 2008**
Internship / Architectural Design / Berlin, Germany
 - "Iveria, Hotel Tbilisi": Construction phase. Produced and checked construction drawings as well as conducted on site supervision.
 - "Graft Furniture": Complete Study. Conceptualized, Design and prepared shop drawings for a modular set of furniture for the firm's new office.

PROFESSIONAL AND ACADEMIC SERVICES

Technical Reviewer for Peer Reviewed Journals and Conferences

- Journal of Computational Design and Engineering
- Building and Environment
- Journal of Building Simulation

Mentorship

Fall 2015-2017

Assisted students with learning about design research and specifically about computational design and digital fabrication methods. Explained different stages of research (developing goals and objectives, research questions, hypothesis, methodology, data collection, and validation) and helped them develop technical skills.

- Mentored students at USC:
 - Alan Wang (Undergraduate student in architecture and computer science)
 - Rheseok Kim (Masters student in Advanced Architectural Design)
 - Jingbo Yan (Masters student in Advanced Architectural Design)
 - Punit Das (Masters student in Advanced Architectural Design)
 - Nick Morof (Undergraduate student in Architecture)
 - Justin Yang (Undergraduate student in Architecture)
 - Kayla Ching (Undergraduate student in Architecture)

Leadership Activities

Maseeh Entrepreneurship Prize Competition

Fall 2016

Led and coordinated a team of graduate students for developing a camera strap that folds into a tripod. My role was to conduct design research but most importantly manage the team in order to make to the final stage of the competition. Additionally, I was in charge of developing different design ideas and creating the final prototype. Through this process I was able go through all the steps for developing a Minimum Viable Product from concept to materialization and familiarize myself with the process of developing a business model and conducting market research.

Outreach Activities

Fablab Ioannina– Co-Founder and Research Director *Ioannina, GR*

Summer 2017

Designed and helped raise funds for adding another node to the global network of fab-labs, in order to provide access to modern means for innovation and invention in the city of Ioannina/Greece. Fablabs began as an outreach project from MIT's Center for Bits and Atoms (CBA), and grew into a collaborative and global network. Fablab Ioannina was conceived as a platform for exploring how Digital Fabrication, Information Technologies and Design Research can create more efficient economic, social, productive and education models in the context of the recent economic and refugee crisis that has stricken the country.