Ardavan Bidgoli

Curriculum Vitae

E-mail: abidgoli@andrew.cmu.edu | Web: www.ardavanbidgoli.com | Phone: 814-777-8873
Address: 403 Margaret Morrison Hall, Carnegie Mellon University, Pittsburgh, PA 15213

Education

May'20 **School of Architecture, Carnegie Mellon University**, Pittsburgh, PA.
Ph.D. Candidate in Computational Design, Prof. Daniel Cardoso Llach.
Thesis Topic: On Design and Making in VR/AR Robotic Platforms

Aug'15 **School of Art and Architecture, The Pennsylvania State University**, University Park, PA.
M.Arch. II, P.P.T.A. in Design Computing (GPA: 3.91/4), Prof. Daniel Cardoso Llach.
Thesis Topic: Motion Grammar for Robotic Fabrication

Sep'12 **School of Architecture, Faculty of Fine Arts, University of Tehran**, Tehran, Iran.
Master of Architecture (GPA: 18.51/20)

Feb'09 **School of Architecture, Faculty of Fine Arts, University of Tehran**, Tehran, Iran.
Bachelor of Architecture (GPA: 18.49/20)

Work Experiences

May'16 - Aug'16 **Autodesk Applied Research Lab**, San Francisco, CA, USA.

- Office of chief technology officer (OCTO), at Pier 9 Facilities.
- Designer at Project *MeshBot*, Collaborative Automated Robotic Fabrication Platform. Integrating Industrial Robotic Arms, Computer Vision, and Computer Aided Manufacturing (CAM).
- Developing Real-time Robotic Workflow Monitoring in AR and VR
- Developing plugins for Dynamo, Autodesk's Visual Programming Platform.
- Design and Fabrication (3D print, Waterjet, CNC) for Robotic End-effectors.
- Developing Electronic Systems for Robotic End-effectors.

Jun'15 - Aug'15 **Bentley Systems**, Exton, PA, USA.

- BSW, Generative Component (GC) Team, Intern
- Product Manager.
- Developing New Geometrical Functionalities for GC.
- Designing the new User Interface for GC.

Dec'12 - Mar'13 **K.D.G. Design Group**, Tehran, Iran.

- Lead Designer. (Full-Time)

Mar'12 - Nov'12 **Rena Design Group**, Tehran, Iran.

- Lead Designer and Member of Research Department.

April'11 - Feb'12 **Zeta Design Group**, Tehran, Iran.

- Lead Designer and Head of Studio. (Full-Time)

Skills

Software Skills

Advanced in:	Autodesk	**AutoCAD**	**Proficient in:**	Microsoft	**Visual Studio**
	McNill	**Rhinoceros**			**C#, Python**
		Grasshopper		Autodesk	**3Ds MAX**
	Autodesk	**Dynamo**			**Unity**
	Adobe	**Photoshop**	**Familiar with:**		**OpenCV**
		Illustrator			**Tensorflow**
		Processing, Arduino		ABB	**RAPID**
					RobotStudio
				Fanuc	**KAREL**
				Autodesk	**Revit**

Hands-on Skills

Prototyping	Robots	**ABB, FANUC Robots**	**VR Platform**		**Vive, Oculus**
	Fab.	**3D Printing, MIG Welding**	**AR Platform**	Microsoft	**Hololens**
		Water Jet			

Research and Academic Projects Involved

Aug'16- **Robot Plaster Throwing Research,** Carnegie Mellon University, Pittsburgh, PA
Developing computer vision system (hardware and software) for stereo camera 3d scanning to spot imperfections in plaster finished surfaces. Robotic motion planning for plastering complex surfaces.
With Josh Bard, CMU dFab.

Jan'16 - Aug'16 **CIC Research Team**, University Park, PA.
Computer Integrated Construction Research Program, School of Architectural Engineering, IconLab, The Pennsylvania State University.

Aug'15 - Aug'16 **Robotic Real-time Virtual Rapid Prototyping**, University Park, PA.
In progress research for real-time robotic prototyping using virtual reality and visual computation, The Pennsylvania State University.

Jul'14 – Aug'16 **SALA Robotic Fabrication Lab Initiative Team**, University Park, PA.
Member of Initiative Team, R.A, with Prof. Daniel Cardoso Llach and Jamie Heiman, The Pennsylvania State University.

Aug'14 - Aug'15 **Studies on Robotic Hot Wire Cutting**
Research project, in collaboration with SALA Fabrication Lab

Publications & Lectures

Peer Reviewed:

Mar'17 **"Assisted Automation: Three Learning Experiences in Architectural Robotics"**
International Journal of Architectural Computing, with Daniel Cardoso Llach and Shokofeh Darbari.

Oct'16 **"Of Hands and Robots: 'Assisted Automation' and 'Robotic Enactments' in Creative Robotics Pedagogy"**
FABLEARN 2016: 6th Annual Conference on Creativity and Making in Education (ACM SIGCHI), with Daniel Cardoso Llach and Shokofeh Darbari, Stanford, CA, U.S.A.

May'16 **"Robotic Motion Grammar"**
Published in the Proceedings of the SimAUD, UCL, London, U.K.

May'15 **"Towards a Motion Grammar for Robotic Stereotomy"**
Published in the Proceedings of CAADRIA 2015, May 2015, with Daniel Cardoso Llach.

Honors and Awards

Dec'16 **Best Project Prize, 15-112 Project Review, School of Computer Science, Carnegie Mellon University**
Nov'16 **3rd Grand Prize and Best Use of API Prize, 112 Hackathon, Carnegie Mellon University**
Aug'16 **Full Tuition Waiver and Stipend for PhD Program at Carnegie Mellon School of Architecture**
Aug'15- Aug'16 **SCDC Student Research Grant for PhD studies**
Aug'15 & Jan'16 **Robert Graham Endow Grad Fellowship**
May'15 **Architectural Research Centers Consortium (ARCC) King Student Medal**
Feb'15 **Stuckeman School Graduate student travel Grant**
Jan'13- Aug'15 **Full Tuition Waiver and Stipend for Masters' program**

Research Interests

Architectural Robotics
Digital Fabrication
Machine Learning
Virtual Reality / Augmented Reality
Software Development
UI/UX Design

Teaching Experiences

Fall'16 **Inquiry into Computation, Architecture, and Design,** Carnegie Mellon University, Pittsburgh, PA.
Spring'16 **Robotic Fabrication Workshop,** Penn State, University Park, PA.
Fall'14 –Spring'15 **Inquiry into Design Computation,** Penn State, University Park, PA.

Reviews

May'16- **Journal of Automation in Construction, International journal research, Elsevier**

On-line Documents

Online Portfolio *www.ardavanbidgoli.com*
Portfolio on Issuu *www.issuu.com/ardavanbidgoli*
LinkedIn *www.linkedin.com/in/ardavanbidgoli*