tr

CURRICULUM VITAE

TWISHA RAJA LEED GREEN ASSOCIATE

traja@andrew.cmu.edu | +1 412 3201354

EDUCATION

AUG '19 – MAY '21

CARNEGIE MELLON UNIVERSITY   PITTSBURGH, PA, USA

Masters in Advanced Architectural Design, Prof. Jeremy Ficca

Thesis Topic: Architectural Robotics; Human-Robot Collaboration and Materials in AEC industry; Skill-Transfer

MAY '14 – MAY '19

DR. B. N. COLLEGE OF ARCHITECTURE   PUNE, INDIA

Bachelors in Architecture

Thesis Topic: Acculturation of Architecture in Traditional Settlements

WORK EXPERIENCE

JUN '18 – NOV '18

OPENIDEAS LLP   AHMEDABAD, INDIA

Parametric Design Intern

- Kinetic Facade Design and Fabrication
- Architectural and Interior Drawings and Detailing
- On-site supervision and documentation
- Furniture Designing, Modelling and Fabrication

MAY '17 – MAY '17

ARCHITEKTEN BÜRO H.MOHR   HOCHHEIM, GERMANY

Architectural Intern

- Drawings and Documentation of Culturally Significant Buildings for Conservation and Renovation
- Assisted in Redesigning of Church-Liederbach, Hochheim

AUG '19 – DEC '19

CARNEGIE MELLON UNIVERSITY   PITTSBURGH, PA, USA

Graduate Teaching Assistant

- Architecture and the Arts

SKILLS

SOFTWARES

Autocad
Rhino3d, Grasshopper, LadyBug, Diva
Google Sketchup, Lumion
Indesign, Illustrator, Photoshop
Premier Pro
Keyshot
Motive, Agisoft Metashape

PROTOTYPING SKILLS

Fabrication:
3d Printing
Cnc Routing
Laser Cutting

Robots:
Abb Robots

Vr Platform:
Hololens
Leap Motion
Kinect

LANGUAGES

English (Proficient)
German (Conversational)
Hindi (Native)
Gujrati (Native)
Marathi (Native)

TASK SPECIFIC SKILLS

Motion Capture
Photogrammetry
Material Handling
Woodshop Tools

PROGRAMMING

Python

RESEARCH INTERESTS

- Robotics for Design and the AEC Industry
- Human-Robot Collaboration
- Socio-cultural Impacts of Robots in Construction

HONOURS & AWARDS

MAY '19

Graduate Merit Scholar: School of Architecture Incoming Student Scholarship
Carnegie Mellon University

DEC '18

Undergraduate Student Leadership Award: Woman of Substance
Dr. B. N. College of Architecture

tr

CURRICULUM VITAE

R E S E A R C H   &   A C A D E M I C   P R O J E C T S

DEC '19

(e)Mulate AEC : Gesture Based Industrial Robot Programming and Cloud Management Interface for Skill Replication and Intuitive Teaching

A gestural programming interface using a cloud based management system for realtime synchronization of programmed tasks. The cloud management helps in synchronizing programmed tasks to all robots a network, eradicating individual programming of every task to every machine.

With Vishal Vaidhyanathan, Carnegie Mellon University

DEC '19

The Estranging Interplay

Independent Study, Carnegie Mellon University

DEC '19

Dynamically Calibrated Robotic Hot-wire Cutting Workflow

Methodology to simplify and segregate complex design approaches in the AEC industry into precise workflows that can be then scaled up or down according to precision.This robotic research workflow digitally and physically embraces an input topology/ form. It is designed to Calibrate the Bounding Box for the Defined Size, Make Divisions accordingly, Make Final cuts by Incorporating precise speeds required by various materials, Dynamically Calculate Clearances, Work with Various Materials, Models and Proportions.

DEC '19

Rain-Maker

Exploration of hybrid design strategies where the expressivity of skilled-human gesture and the extendibility of algorithmic design can be combined with novel design workflows. An attempt to see how Motion Capture plays a Role in embodied practices of making and design. MOCAP data is streamed in CAD environments, combined with human inputs and algorithmic transformation to create novel digital artifacts.

JAN '20

Robotic Plastering Research
Human-Machine Virtuosity

Carnegie Mellon University

DEC '18

Acculturation of Architecture

Acculturation, a sociological term, is reinterpreted within the domain of Architecture, wherein Protected Tibetan Refugee Settlements and the neighbouring settlements in India are studied against a set of variables to get the degree of acculturation.

Dr. B N College of Architecture

R E L E V A N T   C O U R S E W O R K

15-112	**Fundamentals Of Programming And Computer Science** Prof. David Kosbie, School Of Computer Science, Carnegie Mellon University	SPRING '20
48-755	**Architectural Robotics** Ardavan Bidgoli, School of Architecture, Carnegie Mellon University	FALL '19
16-455	**Human Machine Virtuosity** Prof. Garth Zeglin & Prof. Joshua Bard, IDeATe School of Architecture & Robotics Institute, Carnegie Mellon University	SPRING '20
48-776	**Low - Relief: Advanced Synthesis Studio** Prof. Joshua Bard & Prof. Francessca Torello, School of Architecture, Carnegie Mellon University	SPRING '20
48-727	**Inquiry Into Computational Design** Prof. Daniel Cardoso Llach, School of Architecture, Carnegie Mellon University	FALL '19
48-724	**Scripting in gH Python** Prof. Ramesh Krishnamurthy & Noreen Sayyed, School of Architecture, Carnegie Mellon University	FALL '19