

Praneet Mathur

Computational Design Specialist

About



Praneet Mathur is a Computational Design Specialist and Technology Consultant.

With a background in architectural design and self-taught programming skills, he possesses deep knowledge and experience in XR, AI and Computational Design. Over the past 7 years, he has worked with global tech startups and design studios such as Karamba3D (Austria), ShapeDiver (Austria), Sculptform (Australia), Supawood (Australia), Novatr (USA), GMetriXR (USA), iterate (Germany) Futurly (Germany) and rat[LAB] (India) among others.

Published Independent Research Paper:

“Creative Impact of an Even-Driven Visual Scripting Tool” at CAADRIA 2023

[Link](#)

Professional Experience:

6+ years in Computational Design and Development

Highest academic qualification:

Bachelor’s Degree in Architecture (2014-2019)

Birla Institute of Technology, Mesra

Current location: Navi Mumbai, Maharashtra, India

Nationality: Indian

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Alt Email: [praneet8b\(at\)gmail.com](mailto:praneet8b(at)gmail.com)

Visit praneetmathur.com

for a web-based resume

Date of Birth: 23rd June 1996

Pronouns: He/Him

Languages: English, Hindi, German (intermediate)

Nationality: Indian

LinkedIn: <https://www.linkedin.com/in/praneet-mathur>

Instagram: <https://www.instagram.com/pm.architect/>

GitHub: <https://github.com/pm-Architect>

Professional Experience



ARPM Design and Research LLP

Founder, Independent Consultant and Developer · Self-Employed

Feb 2020 - Present

Remote · Vienna, Austria · Gurugram, India

Providing technical consultancy services to design and technology companies around the world like Karamba3D (Austria), Sculptform (Australia), Supawood (Australia), iiterate (Germany), ShapeDiver (Austria), rat[LAB] (India), Futurly (Germany) and many more.

Skills: Architectural Design · Full-Stack Development · Parametric Design · SaaS Development · Cloud Computing · Computational Design · Augmented Reality (AR) · Grasshopper3D · .NET Framework · C# · Unity3D



SUPAWOOD Architectural Lining Systems

Computational Design Consultant · Freelance

Mar 2024 - Present

Remote · New South Wales, Australia · Gurugram, India

Enabling DfMLA (Design for Manufacturing, Logistics and Assembly) workflows through computational design.

Skills: Design for Manufacturing · C# · Computational Design · Workflow Integration · Grasshopper3D



Sculptform

Computational Design Consultant · Freelance

Jul 2023 - Present

Remote · Bendigo, Victoria, Australia · Gurugram, India

Providing computational design expertise for project implementations, product improvements and business development.

Skills: Design for Manufacturing · C# · Computational Design · Workflow Integration · Grasshopper3D



Karamba3D (Bollinger and Grohmann ZT GmbH)
Computational Developer and Consultant · Contract
Feb 2020 - Present · 1 yr+
Remote · Vienna, Austria · Gurugram, India

Building new and better tools for quick structural analysis at early architectural design stages.

Skills: Grasshopper 2 · .NET Framework · C#



ShapeDiver GmbH
Computational Design and Product Development Consultant · Contract
Feb 2020 - Feb 2023 · 3 yrs
Remote · Vienna, Austria · Gurugram, India

Worked extensively as an external consultant with the ShapeDiver team on the following:

- Augmented Reality R&D
- 3rd Party Plugin Review and Support Management Process
- Product Development (Platform v2)
- Technical Marketing Content and Strategy

Also provided additional services like marketing content creation and customer success management via ARPM Design and Research.

“We are very happy with the services that ARPM has delivered to ShapeDiver in the past two years. Their expertise in the fields of parametric design and the AEC industry have helped us improve our software as well as complement our projects team. We hope to extend our collaboration in the future throughout the growth of our company.” - Mathieu Huard, Head of Product & Co-Founder, ShapeDiver

Skills: Architectural Design · Full-Stack Development · TypeScript · Parametric Design · SaaS Development · Cloud Computing · Computational Design · Augmented Reality (AR) · Grasshopper



iiterate Technologies GmbH (offspring from ARPM Design and Research)
Founder, Consultant · Self-Employed
Apr 2022 - Present · 2 yrs+
Hybrid · Adenau, Germany · Gurugram, India

Co-founded iiterate with the goal of long-term business expansion in Germany and the European subcontinent.

Worked with XR and computational design on a variety of projects.

<https://iiterate.de/projects>

Skills: Product Development · Arduino · Human Computer Interaction · Back-End Web Development · Rhino3D



GMetri XR INC.

Computational Designer and Developer · Full Time

Jun 2019 - Feb 2020 · 9 mos

On-site · Bengaluru, India

Driving Innovation and Improving Infrastructure to create an Intelligent Web-Based XR Engine and Editor.

Worked on developing a Rule-based experience scripting system and a Grasshopper interoperability plugin for the platform, enabling the creation of procedural immersive XR experiences, with intelligent interaction capabilities.

Developed various platform UX and infrastructure improvements, gathering feedback from users and working with multiple stakeholders in the team - sales, design and development. Directed multiple corporate client projects and delivered immersive training experiences for large blue-collar workforces in multiple industries (Automotive, E-Commerce, etc).

Skills: Product Development · Arduino · Human Computer Interaction · Back-End Web Development · C# · Grasshopper · JavaScript



rat[LAB] Studio

Computational Designer and Developer · Full Time

Jan 2019 - May 2020 · 5 mos

On-site · New Delhi, India

Developed Grasshopper3D Plugin SPIRO[rat]

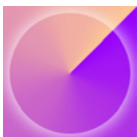
Researched and developed applications of AR in the AEC Industry.

Researched and Developed a Computational Urban Planning & Design toolkit.

Worked on various architectural design and interior design projects.

Taught architecture students enrolled for programs offered by rat[LAB] EDU.

Skills: Product Development · Arduino · Human Computer Interaction · Visual Basic · Rhino 3D · C# · Grasshopper



Futurly (previously FLUX.REAL Studio)

Architectural Trainee · Apprenticeship

Aug 2018 - 2020 · 1 yr 6 mos

Remote · Frankfurt, Germany

Developed an early-stage Revit plugin for Maya to Revit interoperability.

Worked on UI/UX, Interaction Design, Augmented Reality and Artificial Intelligence for gamified architectural visualization experiences.

Taught architecture students various techniques and workflows for computational design and BIM.

Skills: Dynamo · Product Development · Human Computer Interaction · C# · Unreal Engine 4 · Unity3D



Morphogenesis

Architectural Trainee · Apprenticeship

May 2017 - Jul 2017 and May 2016 - Jul 2016 · 6 mos

On-site · New Delhi, India

Worked on various architectural design projects

Skills: Dynamo · Revit · SketchUp · AutoCAD · Grasshopper



Architect Hafeez Contractor

Architectural Trainee · Apprenticeship

Jun 2015 - Jul 2015 · 2 mos

On-site · Mumbai, India

Worked on various architectural design projects

Skills: Revit · SketchUp · AutoCAD

Teaching Experience



Novatr (previously Oneistox)

Lead Mentor [Computational Design - Foundational & Core Studio] · Part-time

Oct 2022 - Present · 6 mos

Hybrid · Gurugram, India

Led course development and mentorship for all programming (Python/C#) related modules and courses.

Skills: Python · Computational Design · C#



RV College of Architecture

Visiting Faculty [Digital Architecture] · Part-time

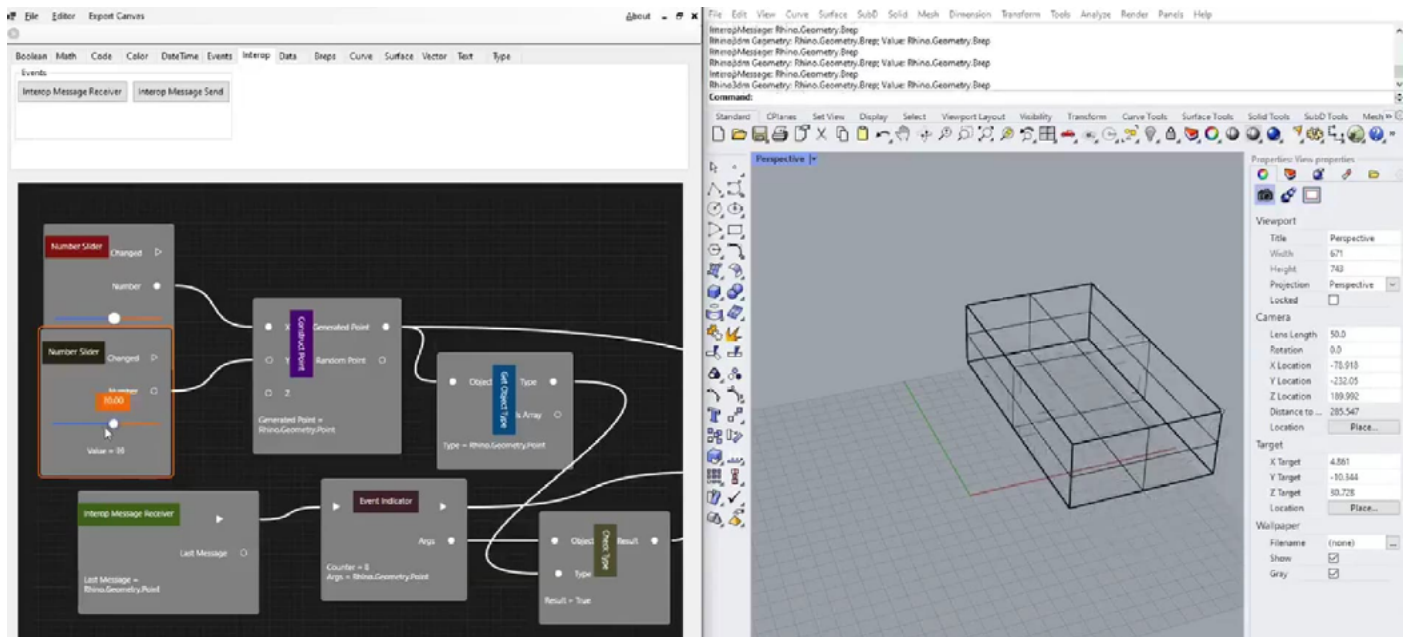
Jul 2019 - Feb 2020 · 8 mos

On-site · Bengaluru, India

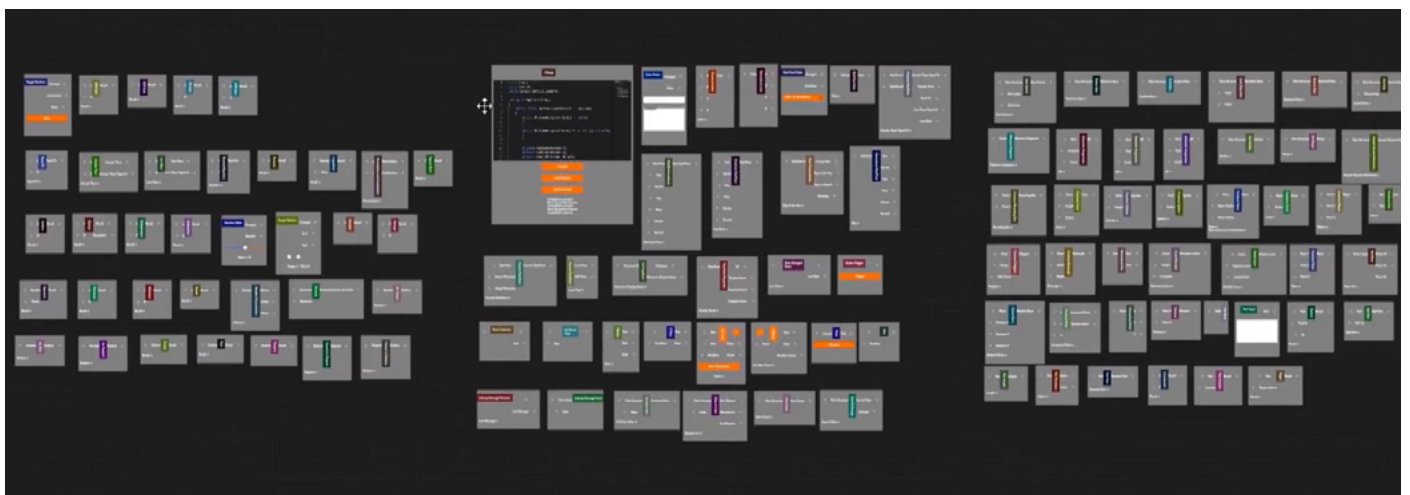
Invited to teach the Digital Architecture Studio for senior B. Arch students.

Skills: Arduino · Human Computer Interaction · Computational Design · Rhino 3D · Grasshopper

Projects



Real-time Interoperability with Rhinoceros 3D



Verse3: A better Grasshopper3D alternative

2022, at ARPM

A visual scripting tool that enables event-based visual programming. It draws inspiration from tools like Grasshopper3D and Dynamo, but is purpose-built for context-agnostic visual programming and flexible interoperability with multiple software.

Accompanied by a double peer-reviewed technical research paper “Creative Impact of an Event-Driven Visual Programming Tool” being published at CAADRIA 2023 [\[Link\]](#).

[Demo Video](#), [DevLogs](#)

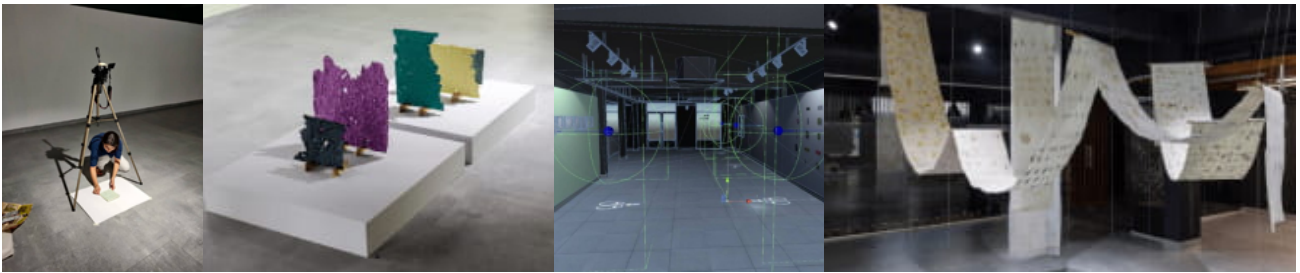
GitHub Repo: <https://github.com/iiterate-de/Verse3>

Skills: C#, WPF, RhinoCommon



Real Exhibition

AR Experience



Pulp Society Immersive Experience

2021 at ARPM

Pulp Society is an art gallery in New Delhi with a focus on pulp based textural art work. We built an authentic in-gallery AR experience for patrons to virtually visit from the comfort of their home during lockdowns.

[App on Google Play Store](#), [Demo Video](#)

Skills: Photogrammetry, Point cloud to BIM, Unity3D



Augmented Reality for Spatial Design

2020 at ARPM

Unable to make frequent visits to the site in another city, we developed an AR app to aid the architectural design and communication process. AR provided a better spatial understanding to the architects and the clients. The architects were able to virtually visit the site multiple times with no travel costs, and also better communicate design interventions to the clients.

Skills: Unity3D, Point cloud to BIM



Various AR, MR and VR Projects

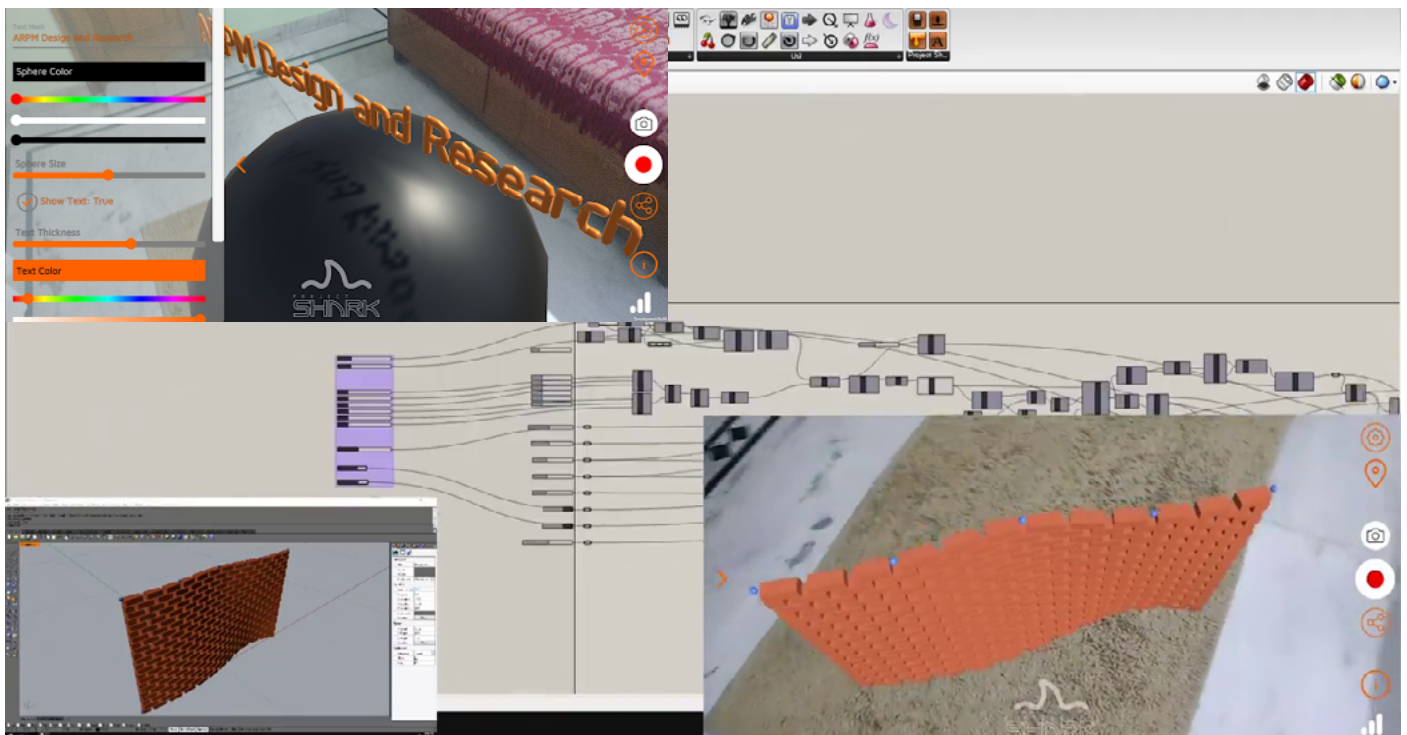
2019-2022 at ARPM

Developed a HoloMap AR experience for tourists visiting the Baadi Mahal in Udaipur (Heritage site). Project done for Dronah Foundation. [Play Store](#), [Demo Video](#)

Developed a Virtual Office MR application that turns a VR headset into a parametric display extension for multiple PCs. With industry grade real-time streaming, virtual monitors can be resized, moved and extended while maintaining low latency over wifi. [Demo Video](#)

Developed a VR power tools training simulator for a US based power tools manufacturer.

Skills: Unity3D

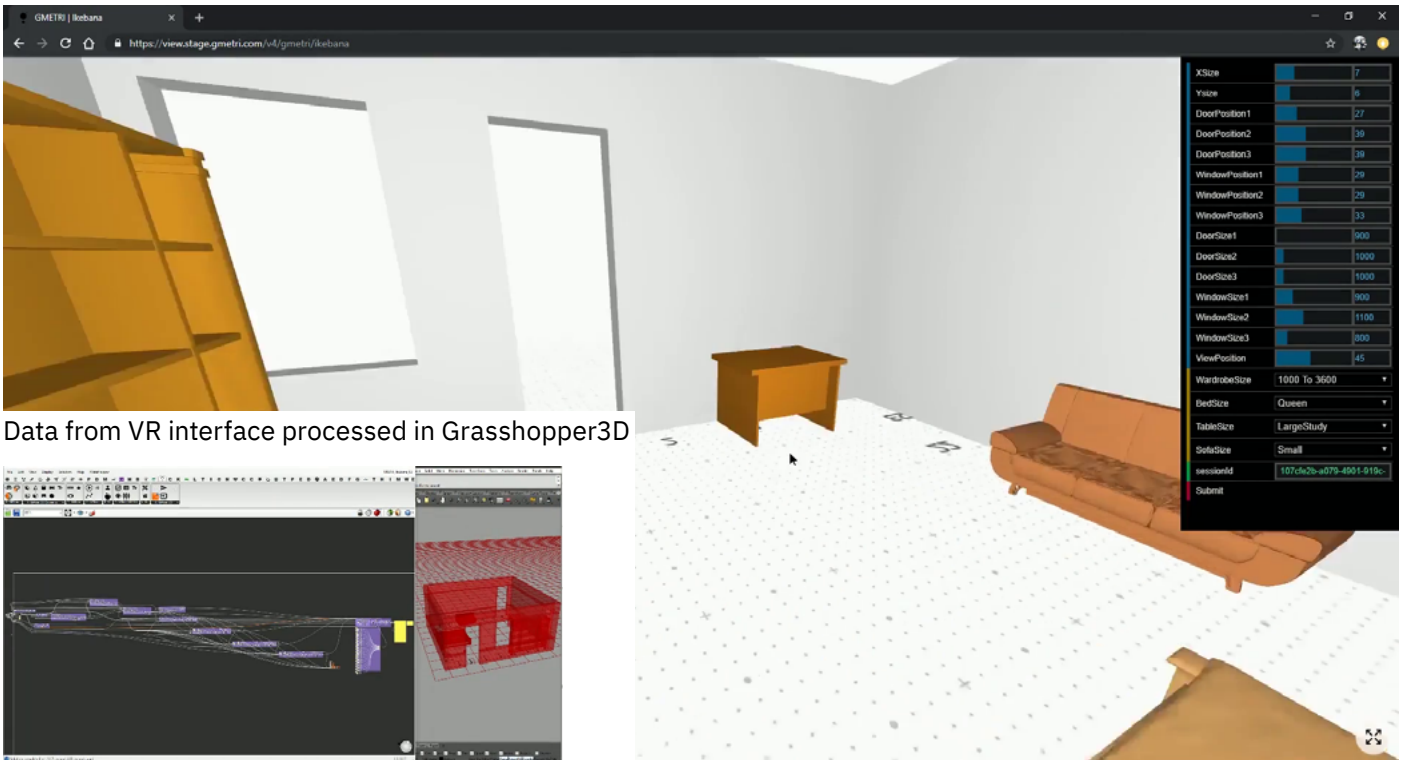


Project Shark - AR for Grasshopper3D

2019 at ARPM

Project Shark is a Grasshopper3D plugin that can be used to stream parametric models to a client AR app. The app also displays selected input options which adjust the parameters of the script and display the output 3D model from Grasshopper in real-time over a network. [Play Store](#), [Demo Video](#)

Skills: Rhino + Grasshopper, 3D data compression, Unity3D



Data from VR interface processed in Grasshopper3D

IKEBANA: Interior Layout Automation

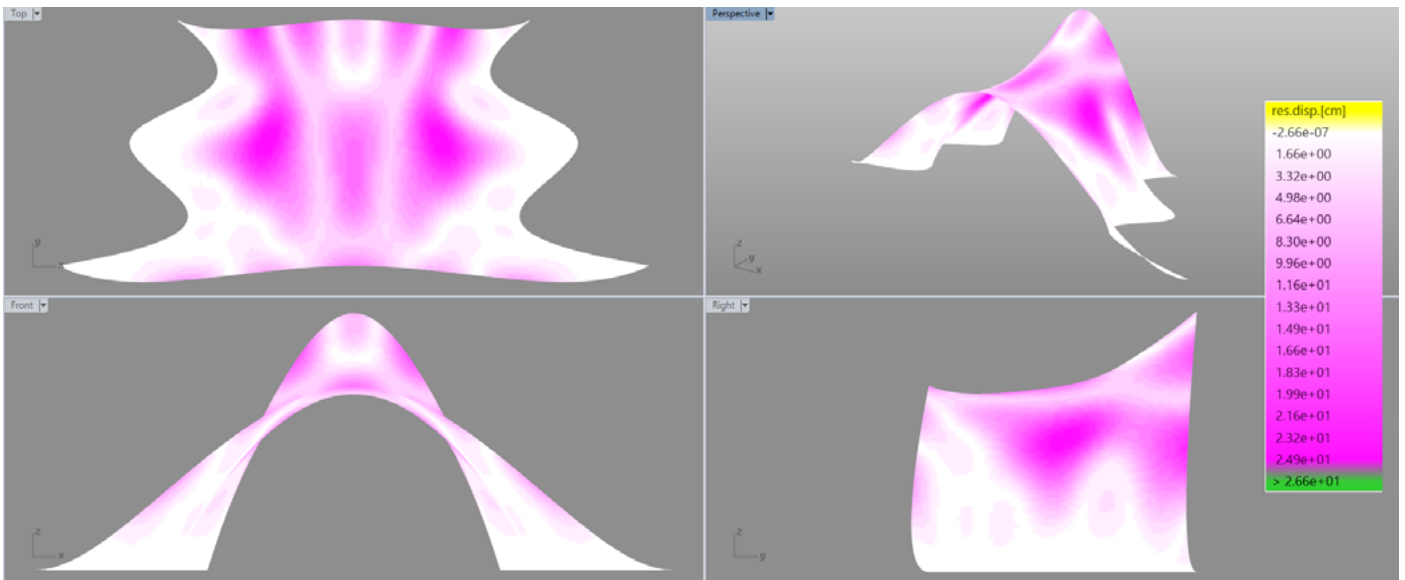
2019 at GMetri

Created a webXR-based interior layout automation tool as an internal prototype.

Used Grasshopper to stream the computed model to the GMetri platform.

Demo video [here](#).

Skills: TypeScript, C#, Grasshopper, API development, Real-time Interoperability



Lightweight Shell Structure Research Project

2019, as a consultant

Lightweight concrete shell structure design - form optimization and analysis for Play Architecture Studio.

This project was part of the studios internal research on a new construction technique for lightweight shell structures. They went on to implement the technique in [this project](#).

Skills: Rhino + Grasshopper, Karamba



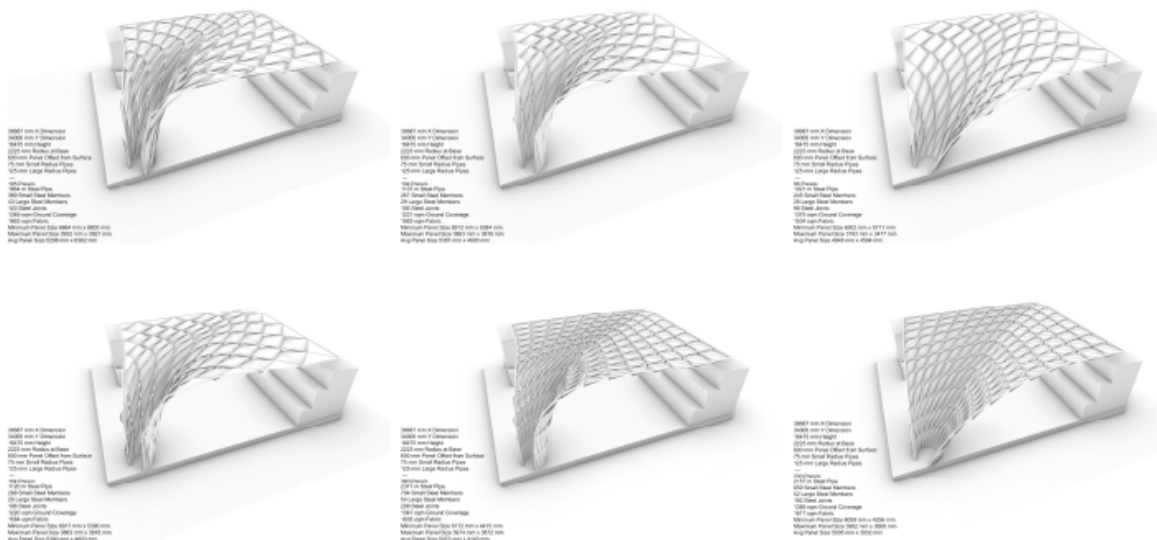
Sai Baba Temple

2019 at rat[LAB]

Worked on design rationalization, iteration and analysis. Developed and used [\[SPRIO\]rat](#) during the conceptual design stage, to explore various radially symmetrical design elements.

This project was featured on [ArchDaily](#).

Skills: Rhino + Grasshopper, tOpos (Mesh Optimization)



Canopy Design for Commercial Complex

2019 at rat[LAB]

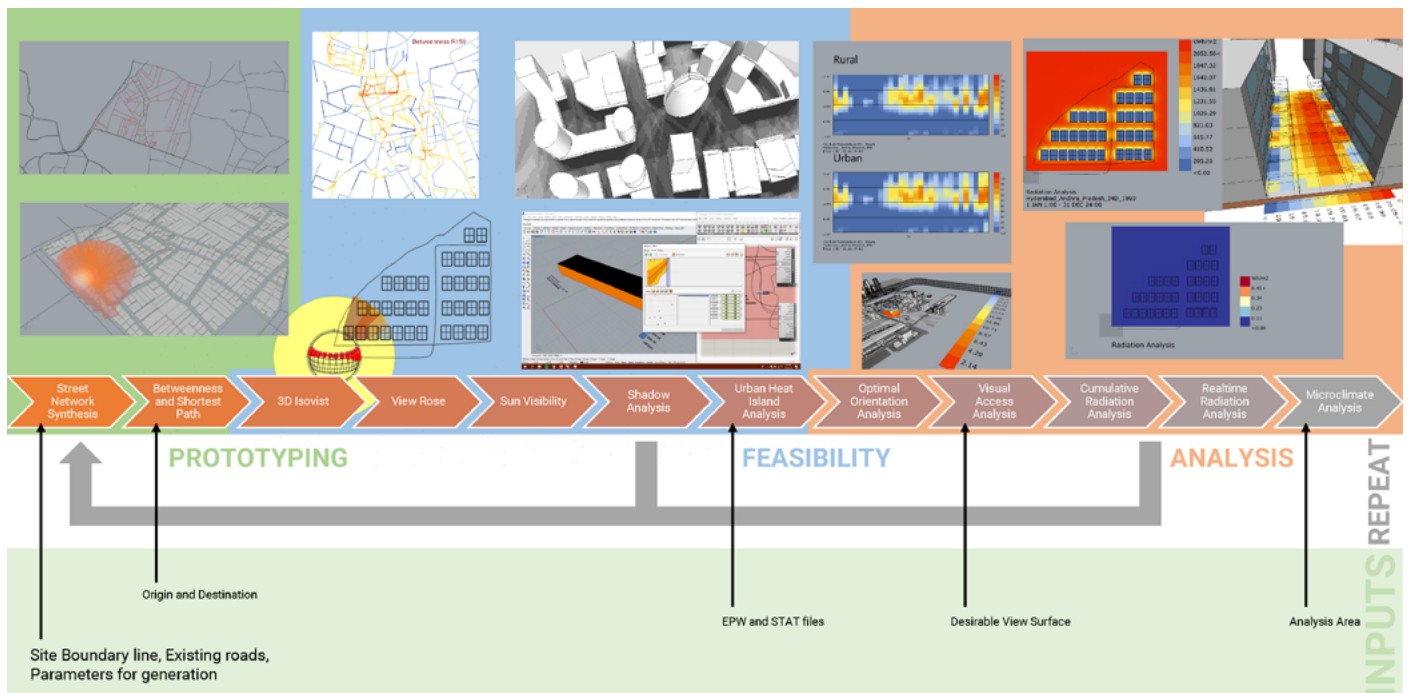
Worked on design iterations and built an automated script to calculate key metrics for each iteration. Created an interface to adjust the parameters for the canopy form and manually optimize for best results. Wrote scripts to generate drawings and schedules for quick coordination with collaborating studio.

Skills: Rhino + Grasshopper, HumanUI

Digital Design to Fabrication 2019 at rat[LAB]

Worked on rationalization and fabrication of the fluidic bench and tessellated pin-up board. Part of an office interior design project.

Skills: Rhino + Grasshopper



Computational Urban Planning Toolkit

2019 at rat[LAB]

Rapid iteration toolkit for urban planning, made for streamlining the design workflow at rat[LAB] Studio. The toolkit was subsequently used in multiple mass housing projects.

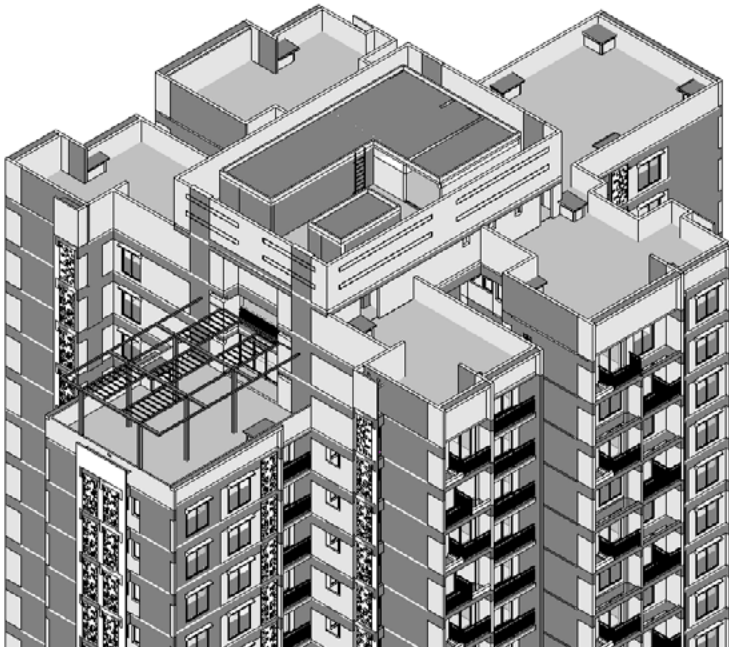
Skills: Grasshopper, Ladybug Tools, Urban planning GH plugins



University Campus Design
 2017 at Morphogenesis
 Worked on early conceptual design and client presentations
 Skills: Design development and communication



Mixed-Use Complex
 2016 at Morphogenesis
 Worked on design development stages, client presentations, 2D and 3D models.
 Skills: SketchUp, AutoCAD, Photoshop



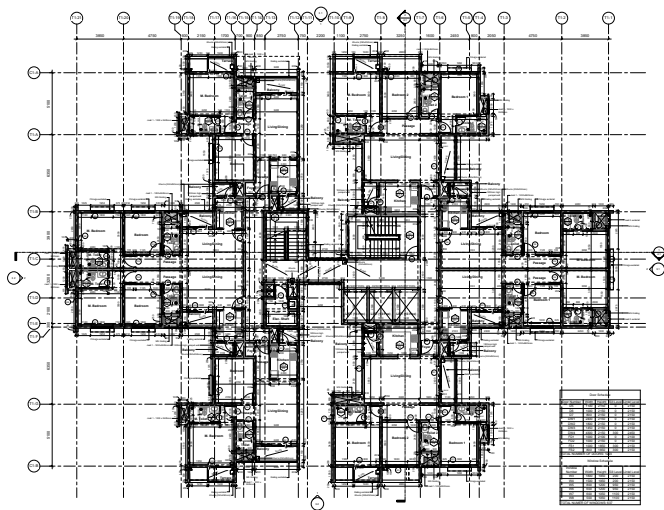
Housing Project

2017 at Morphogenesis

A typical 3-tower residential complex.

Worked on the BIM model for one tower and the EWS housing block. Produced GFC drawings exported directly from Revit. MEP coordination was also done in Revit.

Skills: Revit, Dynamo

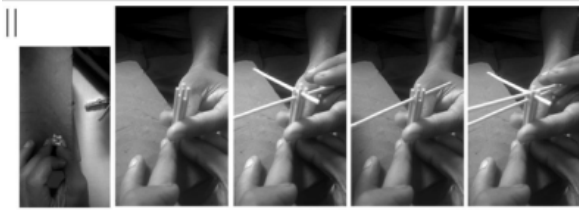
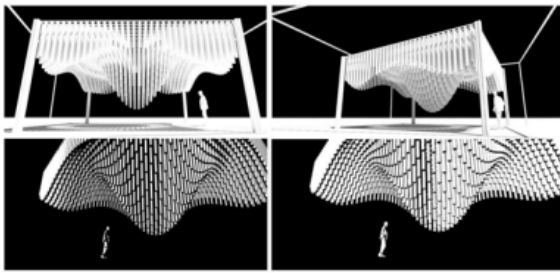
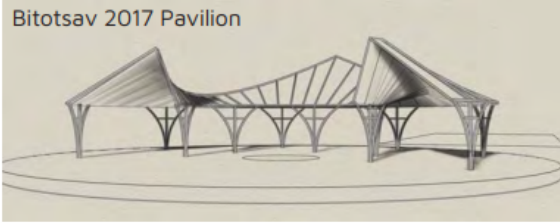


Center for Interactive Art

2019, Academic Project

Final year architectural design thesis project. Employed a Rhino to Revit workflow for detailed design and drawing production. Used AR to better communicate the design with 3D sections and scale models.

Skills: Rhino + Grasshopper, Revit, Unity3D + Vuforia



Bitotsav Pavilions

2014-2017, Co-curricular projects

Design and fabrication of temporary pavilion structures for the annual college fest 'Bitotsav'. Led a team of students to design and fabricate the structures. Worked with locally sourced bamboo and built a custom GH plugin for bamboo structures to aid fabrication and enable material optimization.

Skills: Grasshopper + Rhino, C#, Hands-on bamboo carpentry