



M. Yeganegi
Architect | Computational Designer | Researcher

✉ majidyeganegi@gmail.com | 🌐 <https://github.com/majidyeganegi/BlenderVault> | 🌐 <https://www.linkedin.com/in/majid-yeganegi/>

PROFILE

Architect and computational designer with nearly 20 years of professional experience, working at the intersection of **theory of architecture, human-computer interaction, construction logic, and digital fabrication**. My work focuses on **digital transformation, XR in education and design, and fabrication-aware computational workflows**. I develop design system and tools and research prototypes that connect architectural design, construction reasoning, and digital construction methods, with a particular interest in low-resource environments and sustainable development.

Research Interests:

Computational design and fabrication | Human, Non-human and technology interaction and thriving simultaneously | Geometry-informed structural behavior | Digital and robotic fabrication workflows | Fabrication-aware design tools | Sustainable and low-material construction systems

EDUCATION

Post HBO Digital Transformation Intensive Program (DTIP) | Research Track 2023 - 2024
Amsterdam University of Applied Sciences (Digital Society School)

Master of Architecture (Integrated Bachelor's + Master's) (Completed in 2004)

RESEARCH & DESIGN EXPERIENCE:

Independent Researcher & Computational Designer 2018 - present

Conduct independent research on compression-only vaulted and arched structural systems, focusing on geometry-driven stability and material efficiency.

Develop computational workflows for form-finding, segmentation, and structural logic, integrating architectural design with structural reasoning.

Explore the transferability of compression-based design logic to discrete element and plate-based construction systems.

Investigate applications of these systems for low-resource, remote, and extreme environments, including conceptual studies for off-earth habitats.

Architectural Practice (Various Projects) 2005 - present

Nearly two decades of experience in architectural design, ranging from residential buildings to urban-scale projects. | Strong background in structural design collaboration, construction logic, and material-aware design decision-making. | Extensive experience working in arid and semi-arid contexts, with an emphasis on passive strategies and low-energy design.

Honors & Recognitions

Honorable Mention, Australian Space Architecture Challenge (ASAC) 2025 International design-research competition, Space Architecture

TOOL DEVELOPMENT & COMPUTATIONAL WORK:

BlenderVault (Ongoing Research Tool):

Creator of **BlenderVault** (inspired by RhinoVault with a simpler workflow), a custom Blender3D add-on developed in Python for **form-finding and generation of compression-driven structures**. | The tool supports parametric control, discrete geometry generation, and fabrication-aware logic. | Although initially developed for masonry-like systems, the underlying framework is **material-agnostic** and transferable to **discrete timber or plate-based structural systems**. | Used as a research prototype to explore the relationship between geometry, structural behavior, and constructability.

PUBLICATIONS & WRITING:

- **Yeganegi, M.**,(2023). [Skybound structures \(Book, authored\)](#):
A research-driven book exploring novel arched and vaulted structural systems for **resource-limited and extreme environments**. Combines conceptual design, structural logic, and speculative construction methods, including digital fabrication and modular assembly principles.

TECHNICAL SKILLS:

Computational Design: Rhino, Grasshopper, Blender

Programming & Scripting: Python (tool development, scripting, prototyping)

Design Methods: Parametric modeling, form-finding, geometry processing

Digital Fabrication: Fabrication-aware design, CNC / robotic construction logic (research level)

AI-Assisted Workflows: Use of AI tools to accelerate prototyping, testing, and iteration of computational design scripts

Languages:

Persian (native), English (professional working proficiency), German (A1),

ADDITIONAL INFORMATION:

Strong ability to work independently and define research directions | Comfortable working across architecture, computation, and structural logic | Highly motivated to contribute to collaborative, interdisciplinary research environments