

Rethinking Egyptian Crafts Through Parametric Design

At the German International University in Egypt, two Industrial Design theses used Rhino and Grasshopper to reinterpret traditional Egyptian crafts through computational design. Inspired by Mashrabiya woodworking and Talli embroidery, the projects explore how parametric workflows can expand design possibilities while keeping artisans at the center of the process.

Parametric Adaptive Shell for an Autonomous Stock Handling Robot

Designed for a real-world logistics automation platform, this project explores how Rhino and Grasshopper can be used to develop adaptive industrial components that balance structural performance, mechanical constraints, ventilation, and manufacturability within a fully parametric workflow.

From Form-Finding to

Fabrication: Pabellón Generativo Michoacán

A generative pavilion built in Morelia, Mexico, explores how form-finding, Voronoi-based segmentation, and digitally fabricated nodes can translate computational logic into a lightweight physical structure assembled from recycled CPVC components.

Rethinking Acoustic Guitar Construction Through Digital Fabrication

A digitally native acoustic guitar developed entirely in Rhino 8, combining NURBS modeling, AI-assisted learning, and 3D printing. By replacing the traditional soundhole with a system of internal air channels based on Helmholtz resonance, the project rethinks both acoustic performance and fabrication logic.

Spatial Monoliths: From NURBS Data to Hand-Cast Sculptures

Spatial Monoliths explores the transformation of NURBS-based digital models into hand-cast sculptures, combining parametric

design, laser-cut molds, and rotational casting techniques. The project bridges computational workflows with material craftsmanship, resulting in precise yet expressive physical artifacts.

Parametric Craftsmanship: Digital Workflows and Jewelry Fabrication at IXU Design

At IXU Design, computational design meets traditional jewelry craftsmanship. Using Rhino and Grasshopper, complex parametric geometries are translated into precise physical pieces through casting, advanced materials, and meticulous hand finishing.

Live LLM Data to SubD Geometry: A Biomimetic Workflow in Rhino 8

By integrating a live LLM API directly into Grasshopper, Malvina Stamatiadi transforms AI-generated coordinate data into a biomimetic SubD lattice inspired by dragonfly wing venation, resulting in a 3D-printed lamp that bridges artificial intelligence and physical craft.

Squama: Technique as a Generative System in Body Jewelry

Squama explores how fabrication technique can operate as a generative design system, transforming flat silver into a responsive body landscape through parametric kerf bending.

Precision Through Surface Logic: A Class-A Surfacing Study in Rhinoceros 3D

This educational study explores Class-A surfacing logic in Rhinoceros 3D through a focused investigation of surface continuity, reflection flow, and control-vertex discipline. Using a faucet geometry as a neutral formal framework, the project examines how analytical feedback can actively guide high-quality NURBS surface construction.

Designing Dignity: Modular Shelter Systems Informed by Lived Experience

How can modular systems support dignity, privacy, and adaptability in shelter environments? This project uses Rhino to translate lived experience into a flexible, fabrication-ready design that rethinks how transitional housing spaces can evolve.