The Brick Screen: A Parametric Reinterpretation of the Traditional Jali

The Brick Screen, designed by Muhammad Talha Muftee and Shaikh Abdul Basit for the Arts Council of Pakistan Karachi, reimagines the traditional jali through parametric design. Using Grasshopper, the architects combined local masonry craft and digital precision to create an environmentally responsive brick façade that has set a new precedent for computational design in Pakistan.

Navatu: Redefining the Waterslide Experience

From zero-gravity drops to underwater views, Navatu redefines the waterslide with a manta-inspired design shaped in Rhino and recognized with the IAAPA Brass Ring Award.

Del Rio Skate Garden: Where Skateboarding Meets Ecology

The Del Rio Skate Garden in Texas is the world’s first municipal skate garden, merging flowing concrete terrain with native desert ecology. Designed and built by skateECOSYSTEMS

using Rhino 8, it redefines the skatepark as both civic artwork and living landscape.

A Sculptural Table for ETT’s Sala Demo

Architect Valentina Serando designed a sculptural glass and resin table for ETT’s Sala Demo in Genoa, using Rhino SubD to translate fluid, organic forms into a precise, manufacturable object. The result is a centerpiece that fuses technology, craft, and design in a dynamic dialogue with space and light.

Waffle-Structured Chair: Exploring Robotic Manufacturing in Design Education

A team of DIA Master’s students at Hochschule Anhalt explored computational design and robotic manufacturing by creating a full-scale, waffle-structured ergonomic chair, combining efficiency, ergonomics, and sustainability. Exhibited at Campus Fest 2025, the project showcased the potential of digital workflows and robotic fabrication in architectural education.

Digital Shingles: Interactive Robotic Shingle Facade Assembly

The project “Interactive Robotic Shingle Facade Assembly” explores how traditional Swiss woodcraft can be reimagined through digital technologies. This interactive installation invites visitors to customize shingle facade patterns via an intuitive interface and watch a robotic arm assemble their designs in real-time. The installation showcases the potential of robotics and parametric design to revive craftsmanship while promoting sustainable, adaptable architecture.

NEXUS: From Machine Learning to Manufacturing

NEXUS by ENCODE Studio explores the fusion of machine learning, generative design, and additive manufacturing to create intricate, morphing geometries showcased during Cairo Design Week. Using Rhino and Grasshopper, the team translated AI-generated patterns into full-scale 3D-printed architectural elements, redefining possibilities for design and fabrication.

Shellscape Pavilion: Exploring Wood–Bioplastic Composites in Architecture

The Shellscape Pavilion explores the architectural potential of waste-derived composites through a fully computational and robotic workflow. Developed as part of a PhD research project, this prototype demonstrates how circular materials, structural optimization, and mixed-reality assembly can converge in a full-scale architectural design.

Monumento Pijao Ancestral: A Father–Son Fusion of Art, Technology, and Heritage

The Monumento Pijao Ancestral in Tolima, Colombia, is a 13.6-meter steel sculpture created by artist Edgar Varón Oviedo and his son, industrial designer Edgar Daniel Varón Villarreal. Blending ancestral geometric patterns with advanced 3D modeling in Rhino and Grasshopper, the monument honors the Pijao people through a fusion of art, cultural heritage, and precision engineering.

Thinking in Code: First-Year Towers from Ain Shams University

First-year architecture students at Ain Shams University utilized Grasshopper to design and fabricate parametric towers, learning to think like system designers from day one. The course emphasized algorithmic logic, data structures, and generative workflows to build not just models, but design intelligence.