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.

3DCITYGH: A Parametric Workflow for Digital Urban Survey and City Information Modeling

3DCITYGH presents a modular parametric workflow for generating structured City Information Models from survey data and point clouds, enabling efficient urban-scale modeling for risk assessment, heritage documentation, and structural analysis. Developed within Grasshopper, the approach combines AI-assisted segmentation, custom semantic structuring, and BIM/FEM interoperability.

The Carapacks Pavilion: A Hexagonal Innovation

The Carapacks Pavilion features a versatile design suitable for wooden pavilions, roofs, and facades, showcasing architectural exploration and collaboration through innovative design and digital integration.