

Representação Digital

Visualização em Arquitetura

Design Paramétrico

Victor Ferreira, Prof. Associado

Parametric Modeling:

Parametric modeling is a process based on algorithmic thinking that uses parameters and rules together to create designs. The parameters and rules can be used to manipulate and change the form in real time.

Computational Design:

Computational design is an approach that leverages algorithms, parametric modeling, and digital tools to generate, analyze, and optimize architectural forms. Instead of manually drafting and iterating on designs, architects use computation to explore a vast range of possibilities, dynamically adjusting parameters and responding to external factors.

Parametric Modeling:

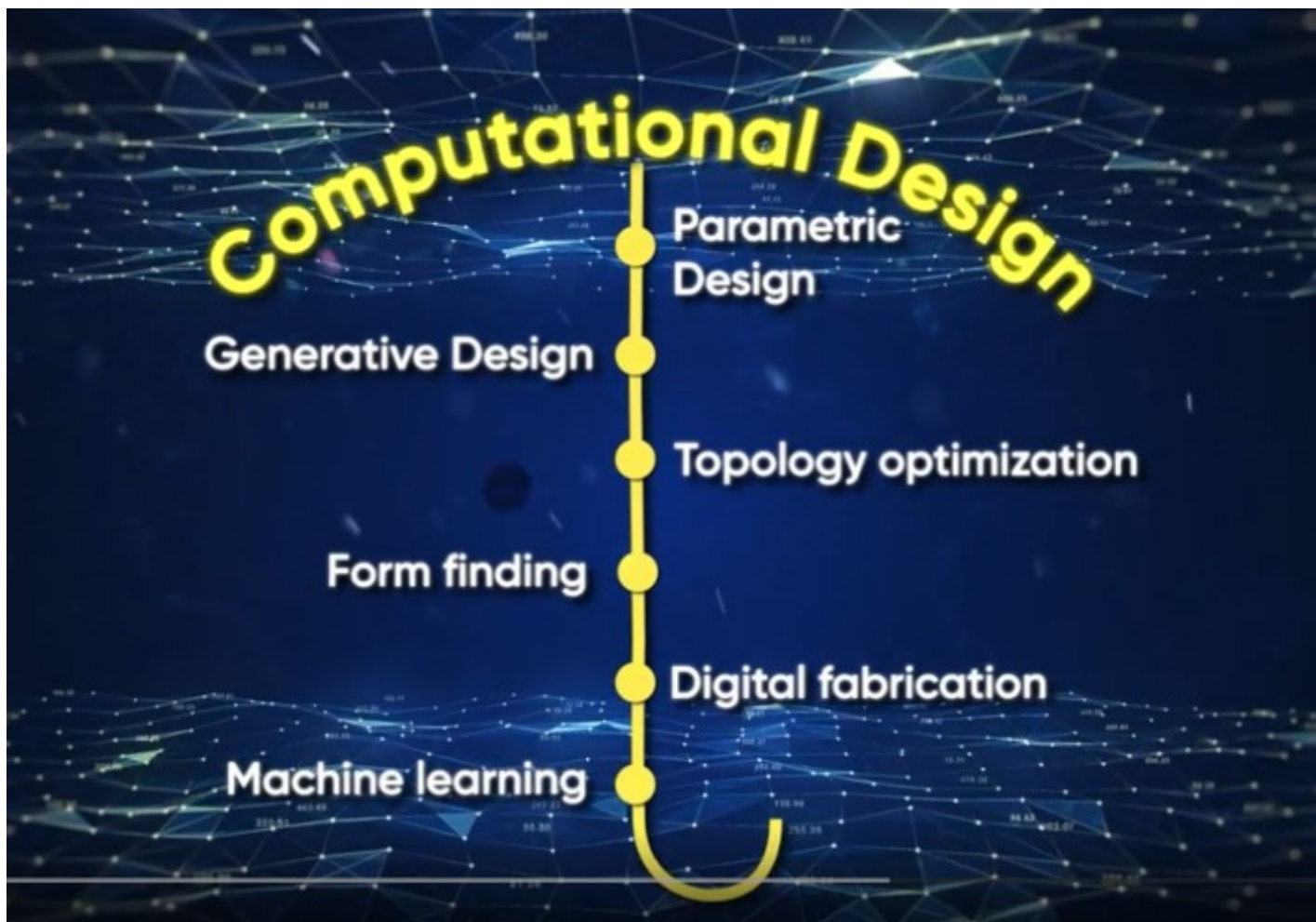
Computational design relies on a suite of advanced digital tools that empower architects to create, analyze, and optimize complex designs. Among the most widely used software are:

Grasshopper3D – A visual programming language integrated with Rhino, allowing for parametric and generative design workflows.

Dynamo – A node-based programming tool for Revit that facilitates automation, optimization, and algorithmic modeling.

Revit, Archicad, Vectorworks – BIM (Building Information Modeling) software that integrates computational methods for parametric design and documentation.

Processing P5 – A flexible software sketchbook often used for generative and interactive design experiments.



Serpentine Pavillion - BIG



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Centro Heydar Aliyev – Zaha Hadid Architects



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Complexo Galaxy Soho – Zaha Hadid Architects



References:

Recomended videos: