

ARCHITECTURES

Diseño arquitectónico con IA Generativa

Juan Bordallo Ruiz

Patrocina:

ALLPLAN
A NEMETSCHEK COMPANY

ARCHITECTURES

- AI-POWERED BUILDING DESIGN -

Empowering Better Building Design through Generative AI

ARCHITECTURES is a Generative AI powered building design platform to help design optimal urban developments in minutes, rather than months.



DRASTIC 2021

DRASTIC 2021 SUMMIT
CONTECH PITCH CONTEST WINNER



PREMIOS
ASPRIMA-SIMA
2019

ASPRIMA-SIMA AWARD
BEST INNOVATION IN THE REAL ESTATE SECTOR



PROPTech AWARDS 2019
BEST INNOVATION AWARD



European
Commission

HORIZON 2020 RESEARCH AND INNOVATION PROGRAMME
UNDER GRANT AGREEMENT No 854888

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AEC faces critical challenges

Rapid Urbanization

+1,5M people every week
Urban areas will host 3.5B+ people by 2050

Affordable Housing

We need to build 2M+ homes
every month for the next 80 years

Climate Change

AEC industry uses 40% of the planet's
total resources

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Current design process is not efficient...

Based on intuition

Decisions are based on the designer's personal knowledge and particular experience

Human error

Human capability in complex situations can lead to sub-optimal solutions

Time consuming

It takes months to address all the variables that affect a building design



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...now, AI augments our capabilities...

Generative AI applied to the building design process can dramatically amplify human capabilities

Augmented intuition

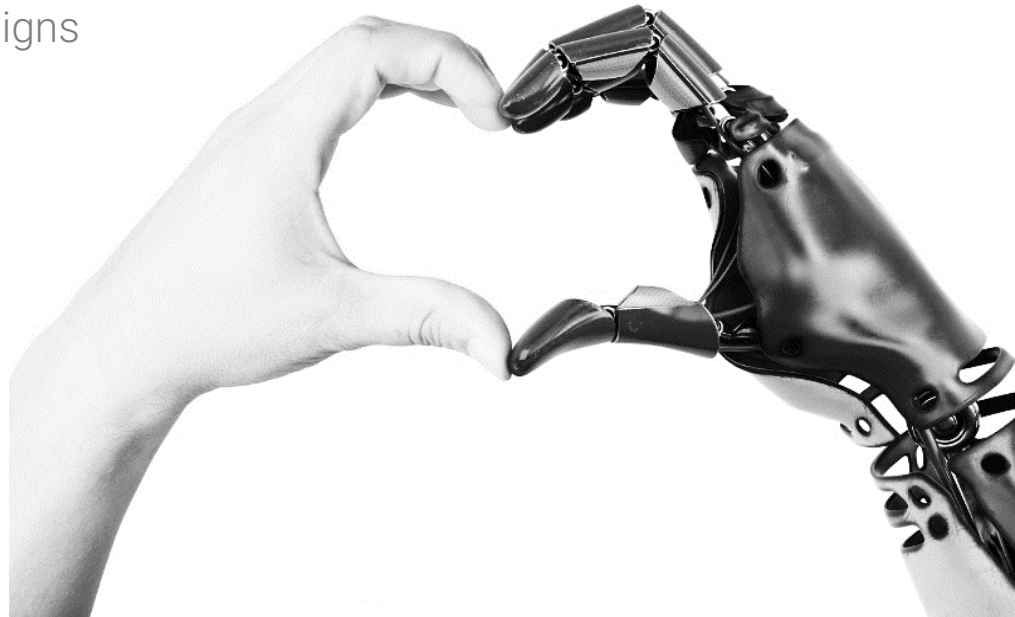
Through a digital knowledge platform built with Gen-AI trained on a growing database of global designs

Enhanced precision

Designs are scientifically optimized with respect to quantitative criteria

Super speed

The results of the design process are obtained in just milliseconds



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...to design better buildings much faster.

Better decisions

AI fed with millions of designs can recommend better solutions to enhance decision making

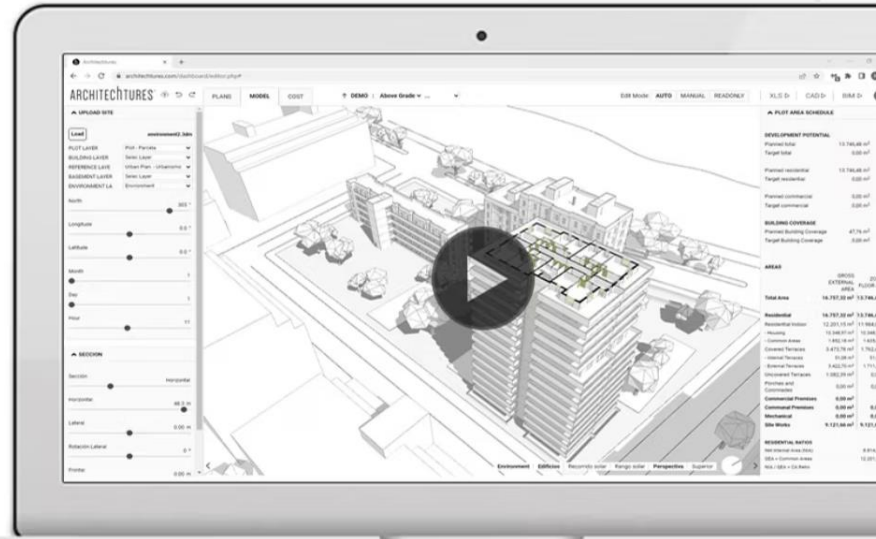
Smarter designs

Machine Learning performs the design that best meets a given project criteria

Improved efficiency

Instant generation reduces design time from months to minutes

See how it works



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AI-Powered Building Design



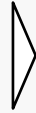
TRAINING

Self Generative Learning



1. Designs database

Obtained from any external source and users' manual edition on the platform



2. System training

Our ML bots digitize and create synthetic data from the designs



3. Digital experience

The world's largest design database is a "Big Data expertise" & feeds the AI process



SERVICE

Gen-AI Aided Design



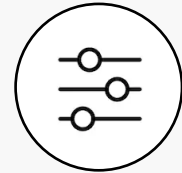
6. Design Download

Designs can eventually be fine tuned and downloaded in XLSX, DXF, and IFC formats



5. Trained System

Using Gen-AI the system provides the optimal solution in seconds



4. User definition

Instant designs and project data with parametric and manual edition inputs

A self-learning patent-pending technology ready to scale functionality and market reach.

Top tier customers worldwide:

Perkins&Will

- USA -



- Mexico -



- Colombia -



FUNDAMENTA

- Chile -



- Spain -

REALIZA
(arquitectura)

- Brazil -



- India -



- Japan -



- Hong-Kong -

Paying subscribers in 130 countries:

Albania	12	Bolivia	26	Colombia	352	El Salvador	17	Iceland	3	Kuwait	3	Mozambique	1	Philippines	6	Slovakia	4	Uganda	3
Algeria	6	Bonaire	1	Congo	1	Ethiopia	2	India	36	Latvia	4	Myanmar	5	Poland	17	Slovenia	11	Ukraine	9
American Samoa	1	Bosnia And Herzegovina	3	Cook Islands	1	Finland	1	Indonesia	15	Lebanon	5	Nepal	1	Portugal	36	South Africa	10	United Arab Emirates	8
Angola	1	Botswana	1	Costa Rica	44	France	25	Iraq	3	Lithuania	5	Netherlands	6	Puerto Rico	7	South Korea	2	United Kingdom	56
Argentina	257	Brazil	91	Cote d'Ivoire	3	Georgia	7	Ireland	3	Luxembourg	1	New Zealand	4	Qatar	1	Spain	244	United States Of America	223
Armenia	4	Bulgaria	8	Croatia	10	Germany	29	Israel	23	Malaysia	9	Nicaragua	17	Romania	26	Sri Lanka	6	Uruguay	23
Aruba	1	Cambodia	2	Ghana	1	Ghana	4	Italy	41	Maldives	5	Norway	1	Russia	4	Sweden	7	Uzbekistan	5
Australia	30	Cameroon	1	Cyprus	7	Greece	14	Jamaica	2	Mali	1	Oman	4	Russian Federation	1	Switzerland	23	Vanuatu	1
Austria	4	Canada	31	Czech Republic	5	Guatemala	37	Japan	5	Malta	1	Pakistan	14	Rwanda	1	Taiwan	2	Venezuela	29
Azerbaijan	5	Cape Verde	2	Denmark	4	Haiti	2	Jordan	1	Mexico	1004	Palestinian Territories	1	Saudi Arabia	69	Tajikistan	1	Vietnam	12
Bangladesh	6	Central African Republic	3	Dominican Republic	110	Honduras	35	Kazakhstan	17	Moldova	1	Panama	32	Senegal	5	Thailand	14	Virgin Islands, British	1
Belgium	8	Chile	225	Ecuador	123	Hong Kong	7	Kenya	10	Montenegro	7	Paraguay	46	Serbia	12	Togo	2	Yemen	1
Benin	2	China	4	Egypt	21	Hungary	5	Korea, Republic of	3	Morocco	19	Peru	365	Singapore	1	Turkey	60	Zimbabwe	1

registered users: **+10,000**

II Foro de Tecnología para la Consultoría de Ingeniería de FEPAC



Gracias

<https://architectures.com>

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