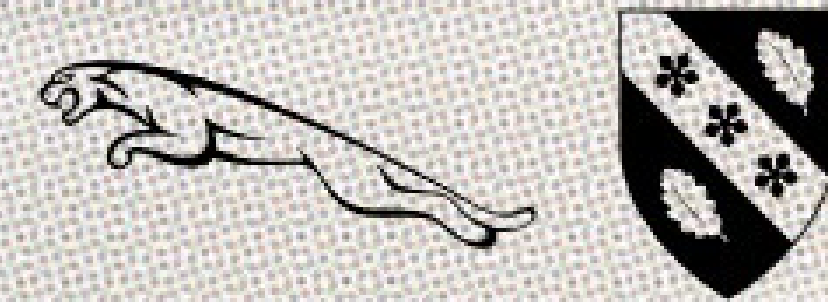


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MODULARIZATION & CUSTOMIZATION

MAJOR PROJECT

Contents

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Contents

Market in 2050

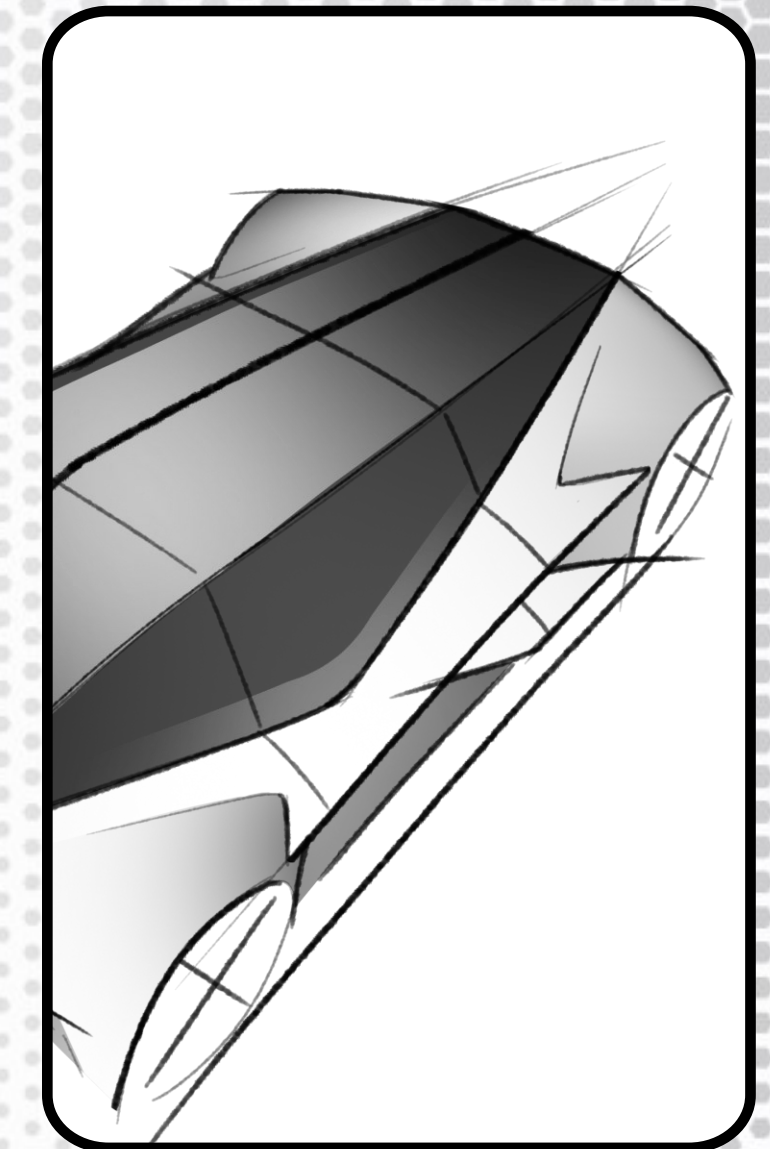
The Problem

The Solution

Design Inspiration

Design

Proposals



Market In 2050

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Market In 2050

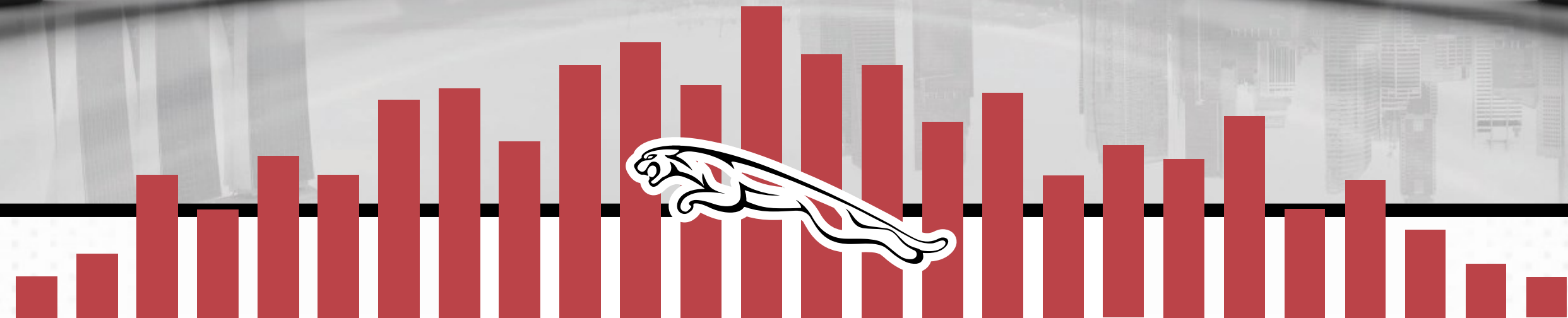
Market in 2050



Market In 2050

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Market In 2050

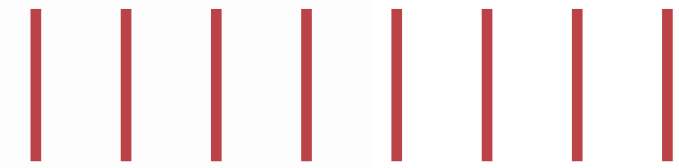


Market In 2050

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Market In 2050

Stages of Autonomous Driving



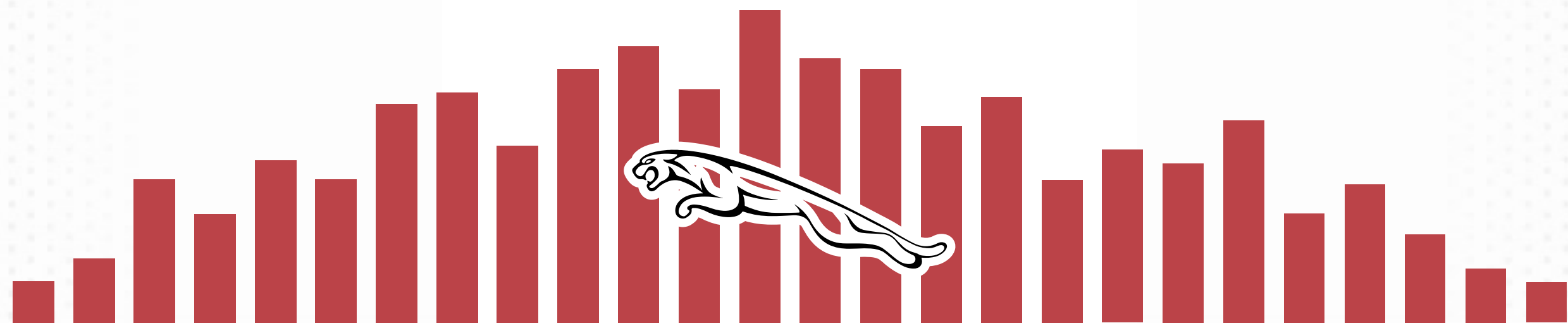
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~2010

Current

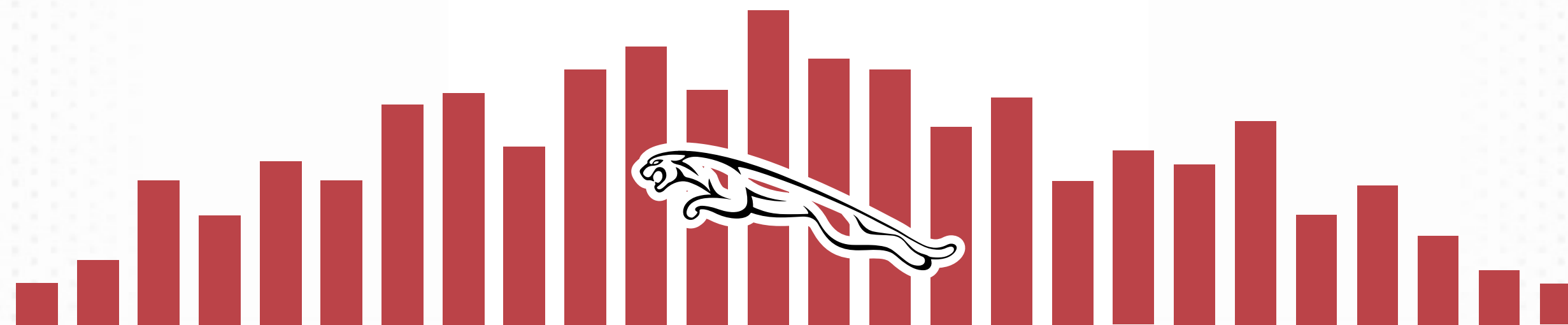
~2027

~2030



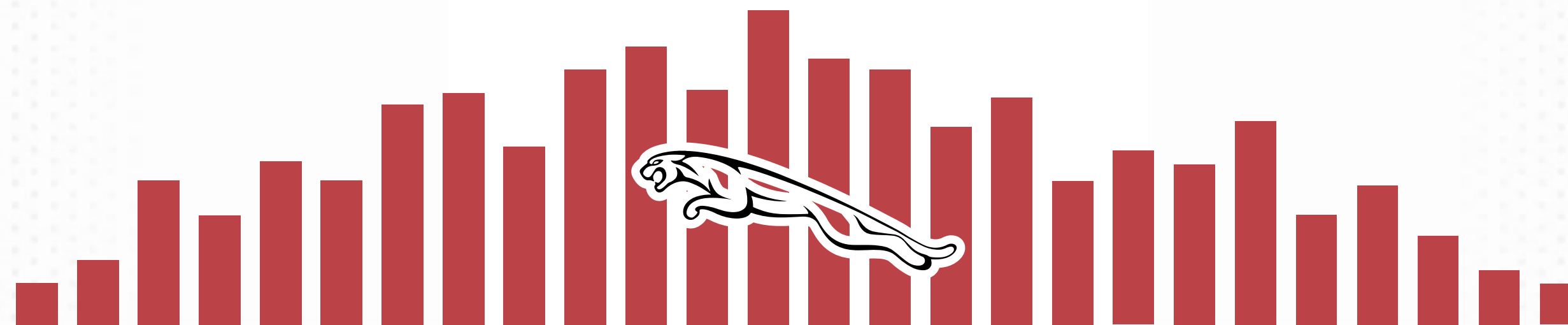
The Luxury Automobile Market Is Expanding

The U.S. luxury automobile market is expected to grow at a compound annual growth rate of **5.9%** between **2023** and **2030**.



\$\$\$

Car sharing is currently at **55.5%**
of the price of ownership in major cities.
(Based on a study in LA)



Market Forecasting

The Market size for shared vehicles in the US currently sits at 130 USD billion with a CAGR of 14.68%. The passenger car market size in the US currently sits 1549.22 USD billion with a CAGR of 5.62%. Assuming these two markets are in competition, the total market size is currently 1679.22 USD Billion with a CAGR of 6.32%. Assuming the CAGR of all markets remain constant, the total market size in 2050 will be 9339.57 USD billion and the shared vehicle market size will be 6020.03 USD billion, giving it a total market proportion of 64.46%. Assuming the CAGR of the vehicle sharing market will be increased due the introduction of Stage 5 Autonomous vehicles, this proportion is likely to be a lower bound with an upper bound of 91.08% given an increase in CAGR of 2% in 2030.



Market In 2050

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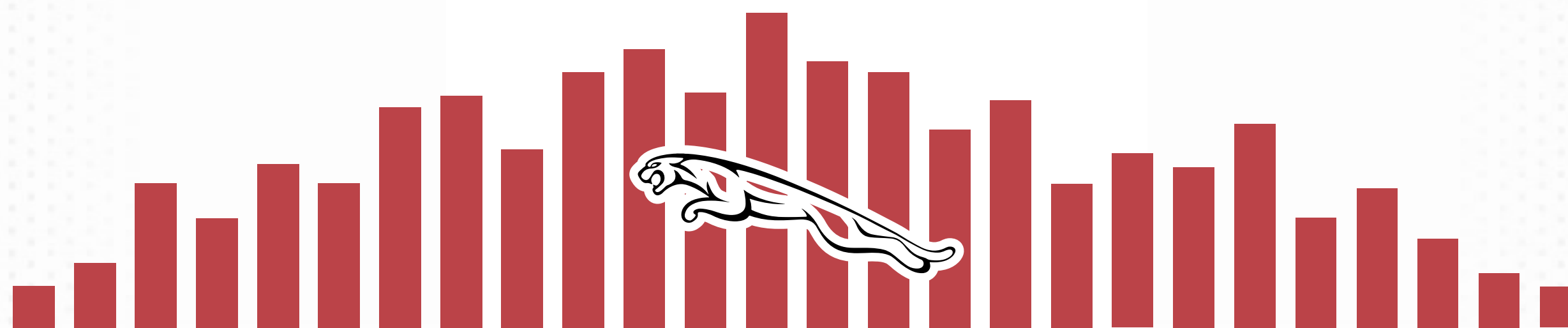
Market In 2050



10-35% Individually owned
automobiles.

65-90% Commercially owned
for subscription and other
car sharing services

2050 Market
Prediction



The Problem

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The Problem

The Problem



The Problem

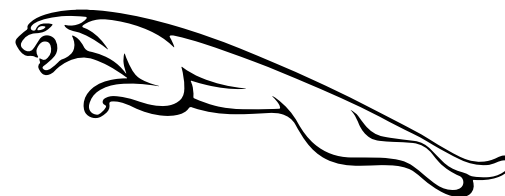
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The Problem



Understanding the Problem

The Current CAGR of the luxury automobile market suggests there is still and there will continue to be strong demand for high end vehicles. However, due to the introduction of car sharing and its continued development, we can expect customers to turn away from individually owned automobiles and many major car manufacturers to follow. This would leave the demands of many customers uncatered for as, without decreasing manufacture costs, many luxury automobile manufacturers won't be able to compete.



The Solution

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The Solution

The Solution



The Solution

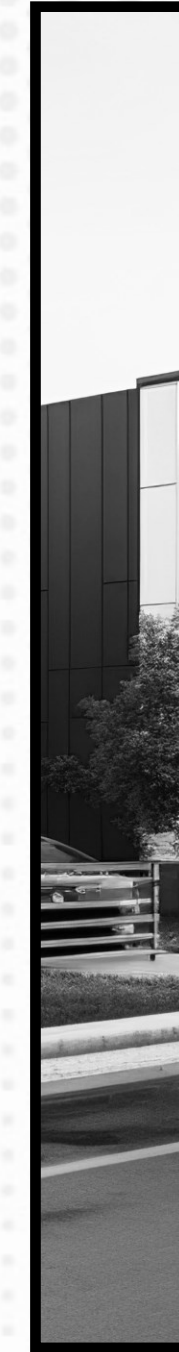


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Combining **modularization** and **customization** will decrease manufacturing costs and increase market reach making individually owned automobiles more appealing for manufacturers.



The Solution



The Solution

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The Solution

G-SERIES



The Solution



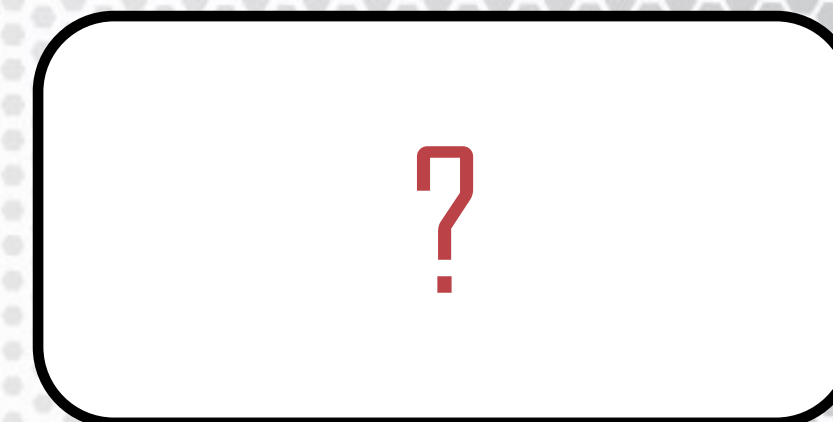
E-SERIES
1961

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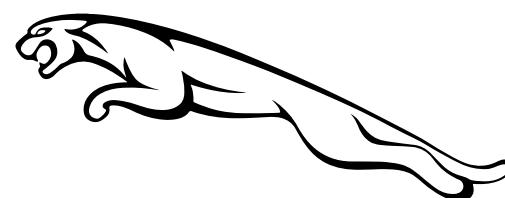
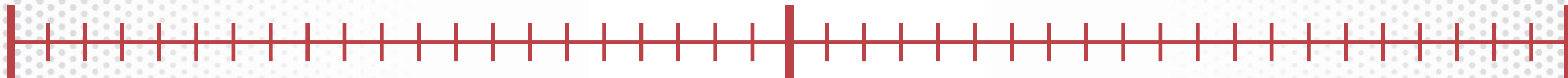


F-SERIES
2013

The Solution



G-SERIES
2050



The Solution



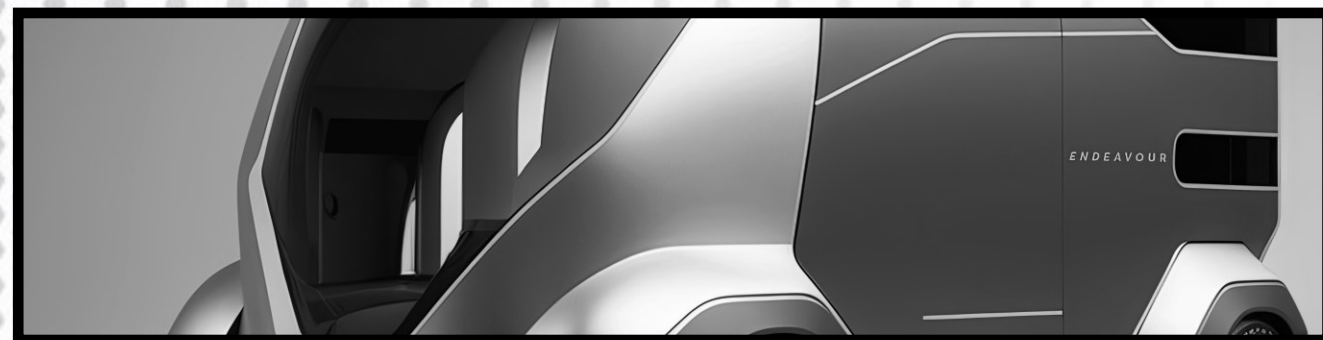
1952

Assembly Line
Production System



1913

Just in Time



Currently under development

Modularization

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The Solution

Modularization is seen as the
“Third revolution in the
history of the auto industry”



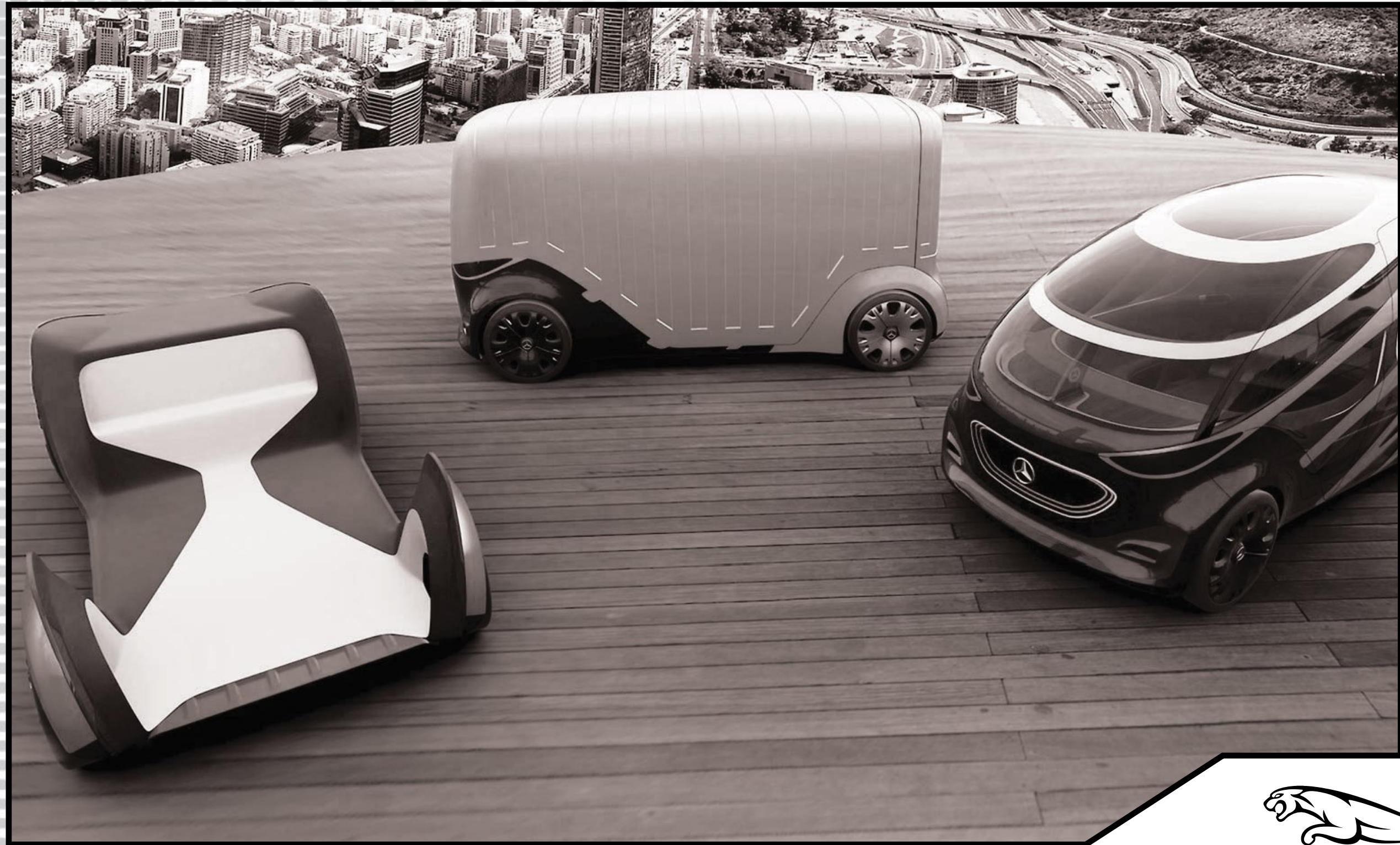
Fiat, Mercedes-Benz, Rinspeed, Rivian and Schaeffler have all produced concept cars featuring interchangeable bodies.
Some companies are aiming for mass production.



The Solution

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The Solution



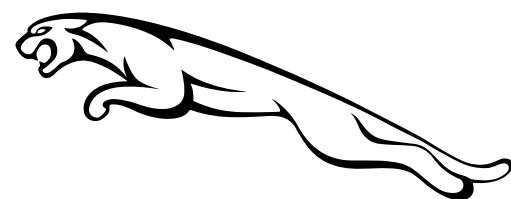
Mercedes-Benz Vision URBANETRIC

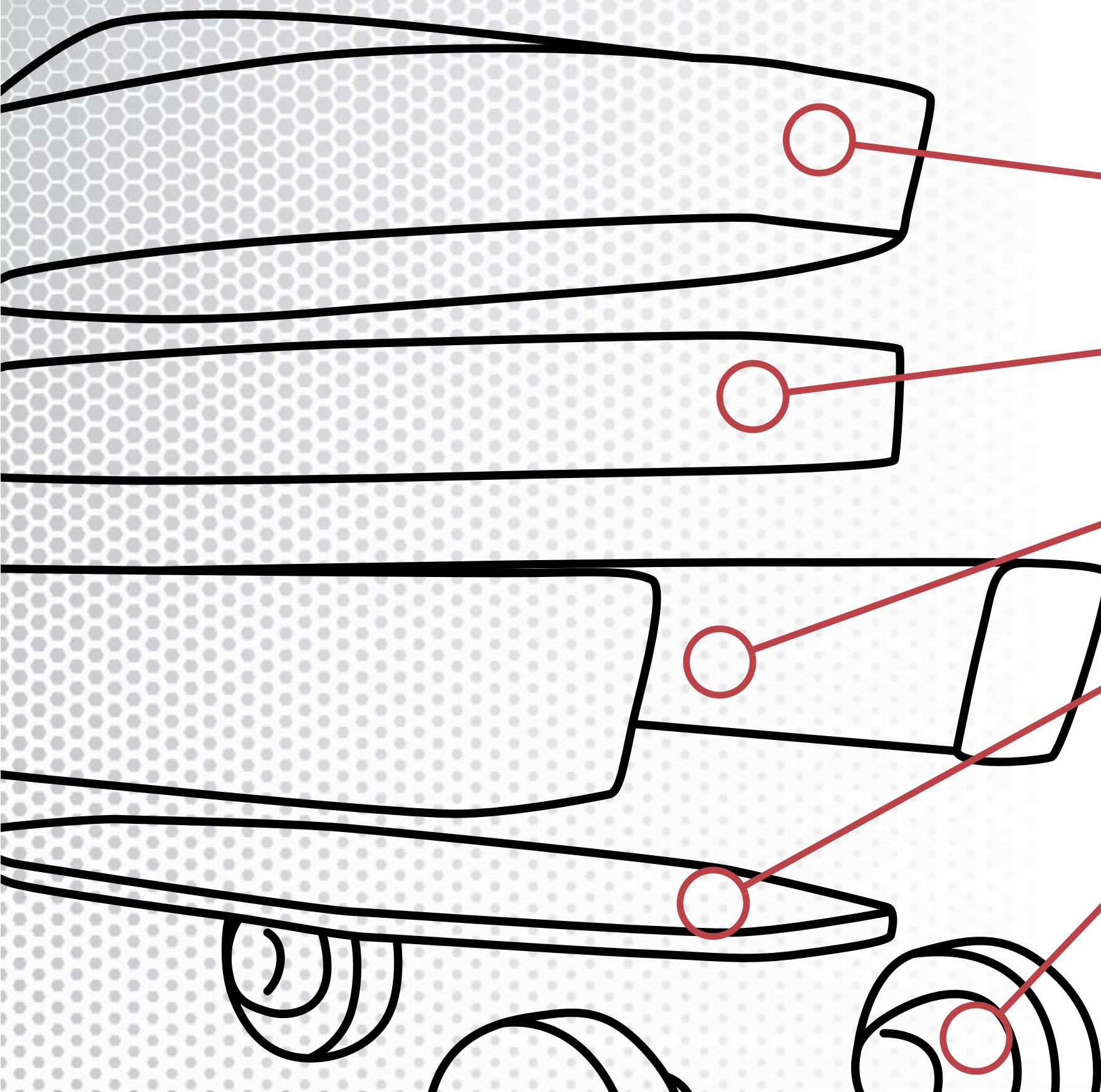
Battery electric “skateboard” platform.

Stage 5 Autonomy allows interior versatility.

Two interchangeable modules allow vehicle to serve dual purposes.

Both Modules have functional similarities.





Housing Pod - **G-Pace and G-Type**

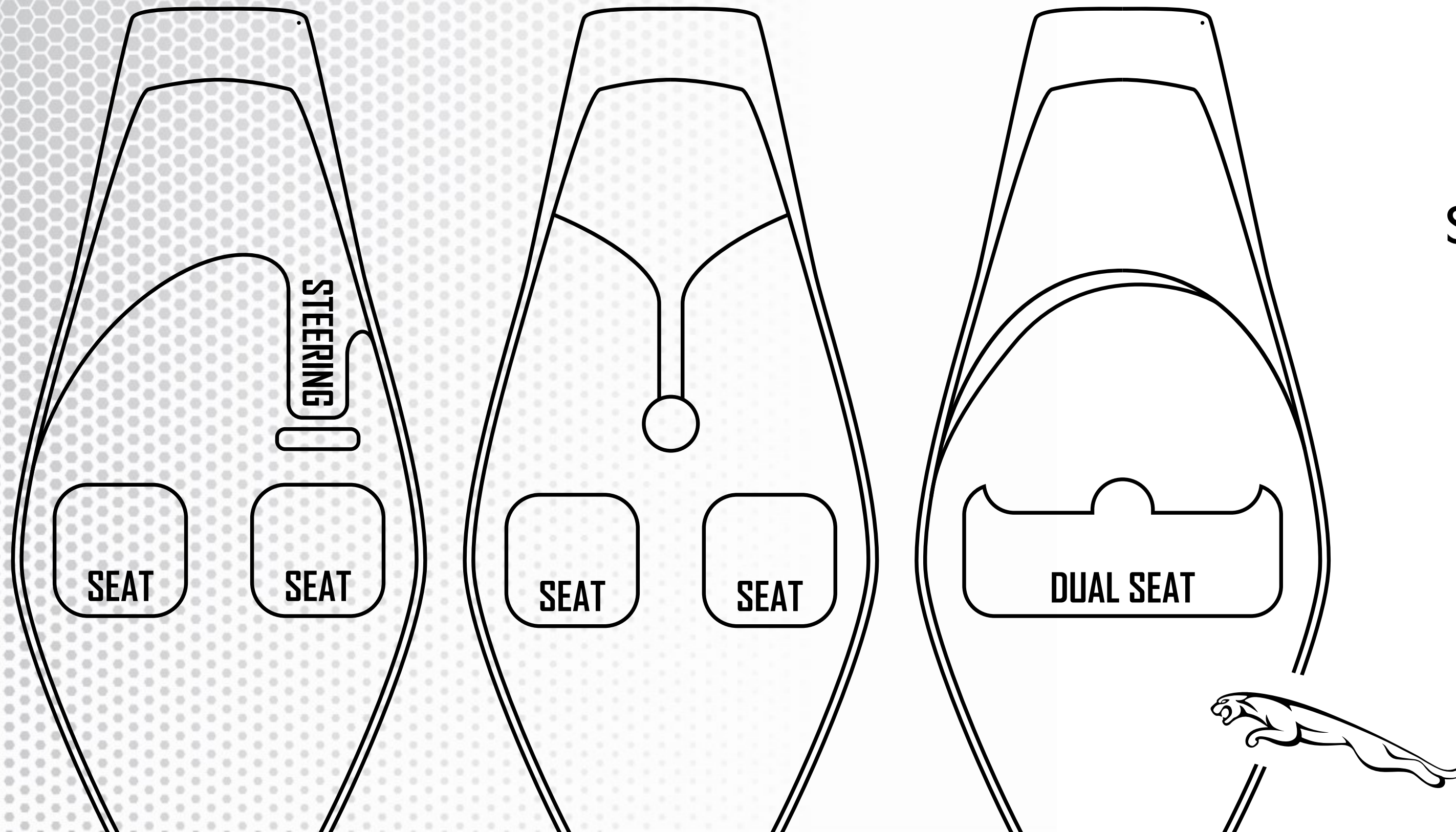
Extension Module - **G-Pace**

Exterior Panelling - **G-Pace and G-Type Separately**

Battery - **G-Pace and G-Type**

Motors and Wheels - **G-Pace and G-Type**





Interior Customization

Suppling multiple interior options means the market for the automobile can be expanded without dramatically increasing manufacture costs. Reusing certain interior modules such as seat designs and detailing allows costs to be reduced further.

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The Solution

Interior lighting and OLED Displays

I intend to use lighting an OLED displays throughout the car to give the customer a further level of in the moment customisation.



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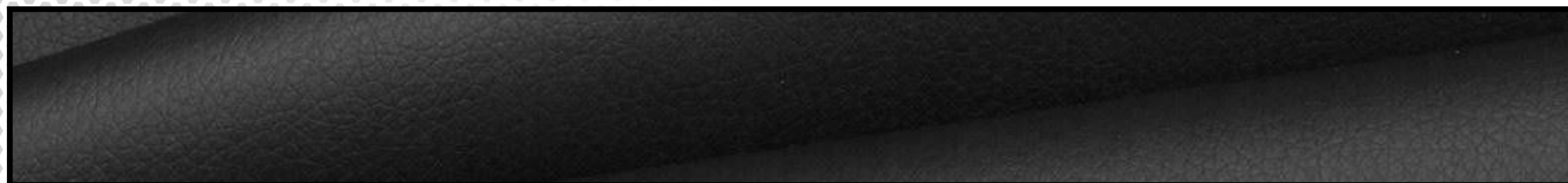
The Solution



VEGEA Grape Leather



Desserto Cactus Leather



Recycled Leather

Material Options



The Solution



Target Market

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The Solution

Age: 30-60 years

Salary: >£100,000

Location: Suburban

Lifestyle: Single/married
with no children



Design Inspiration

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Design Inspiration

Design Inspiration

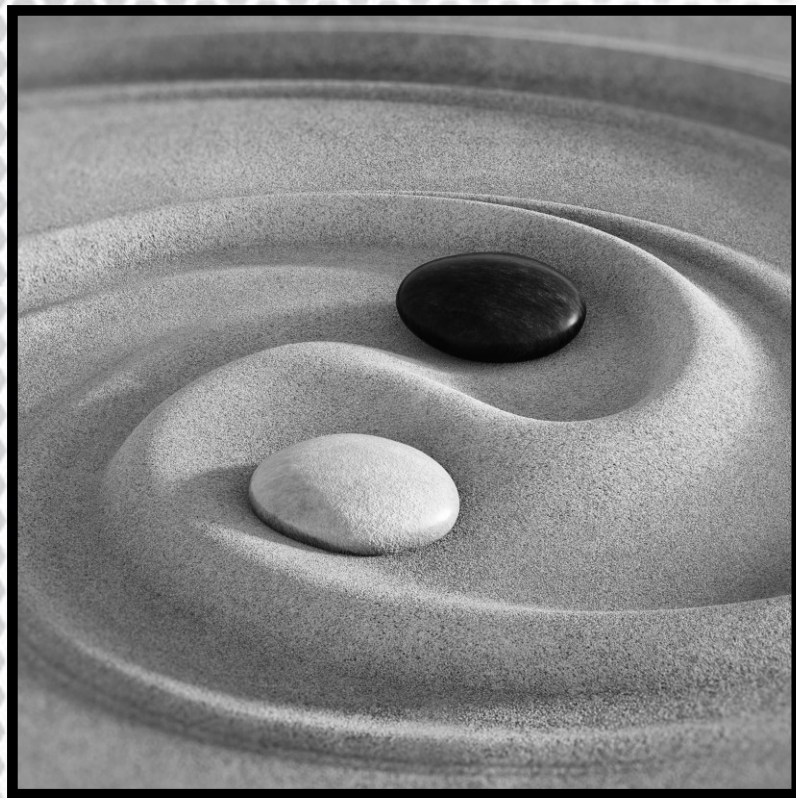


Design Inspiration

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Design Inspiration

Jaguar DNA



Balance



Aggression



Sophistication



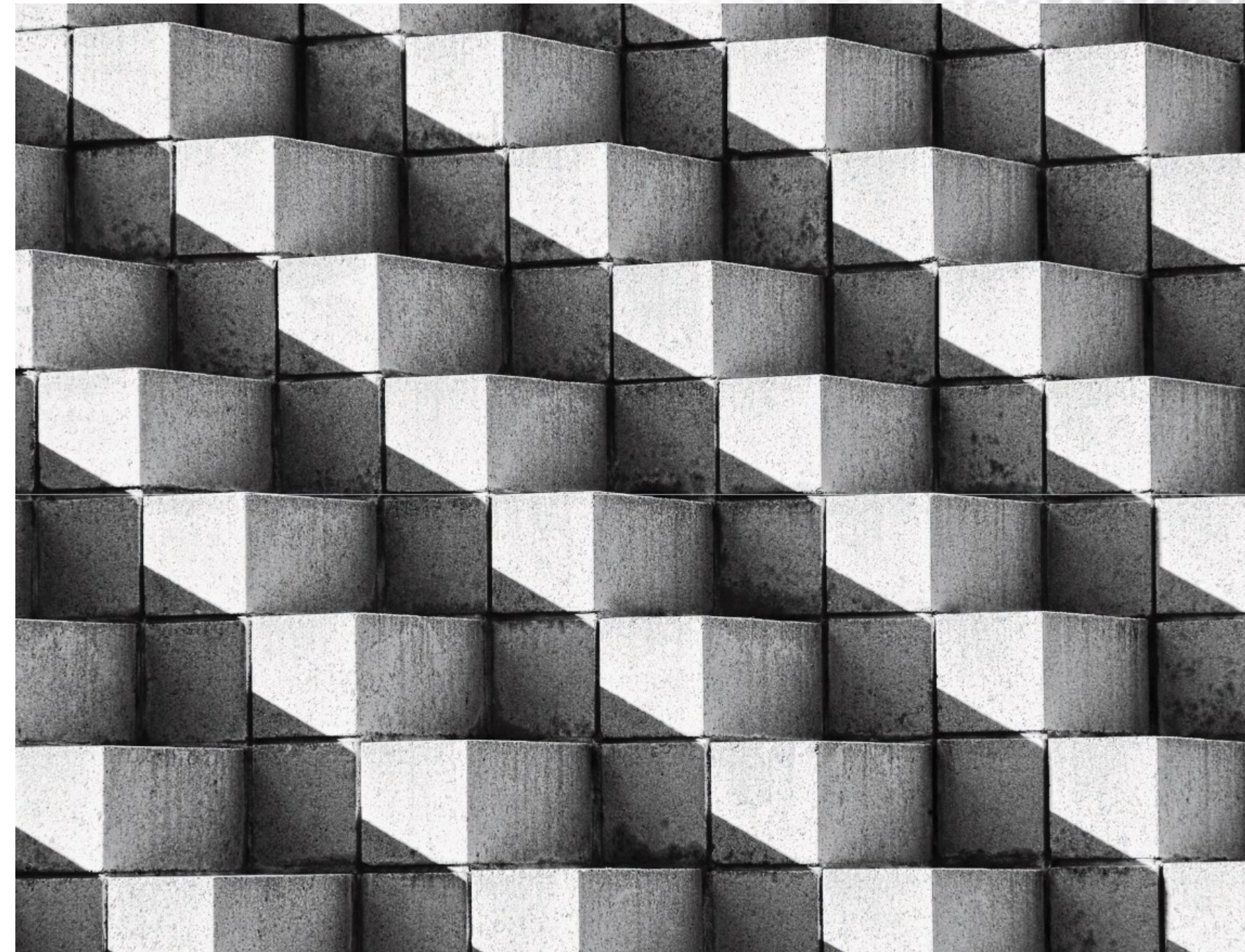
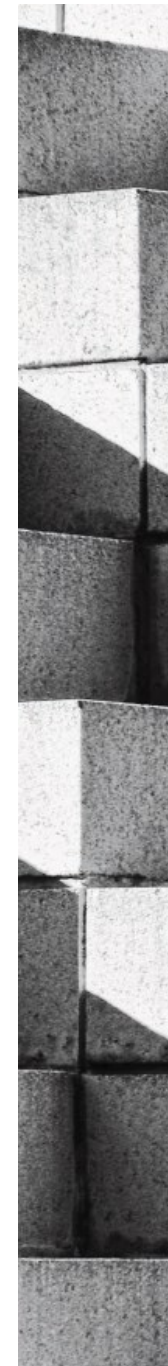
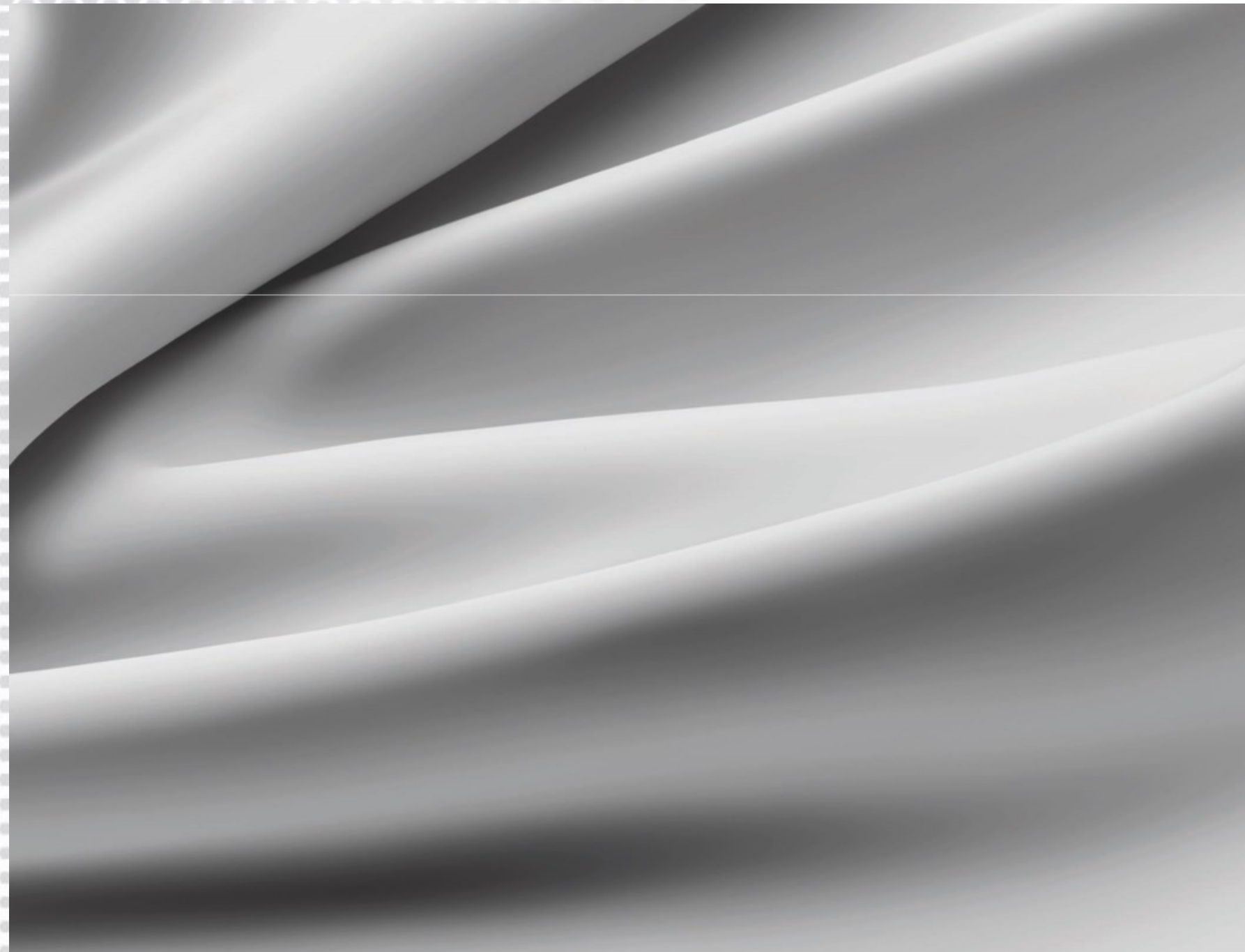
Poise



Design Inspiration

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Design Inspiration



Design Inspiration



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Design Inspiration



Design

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Design

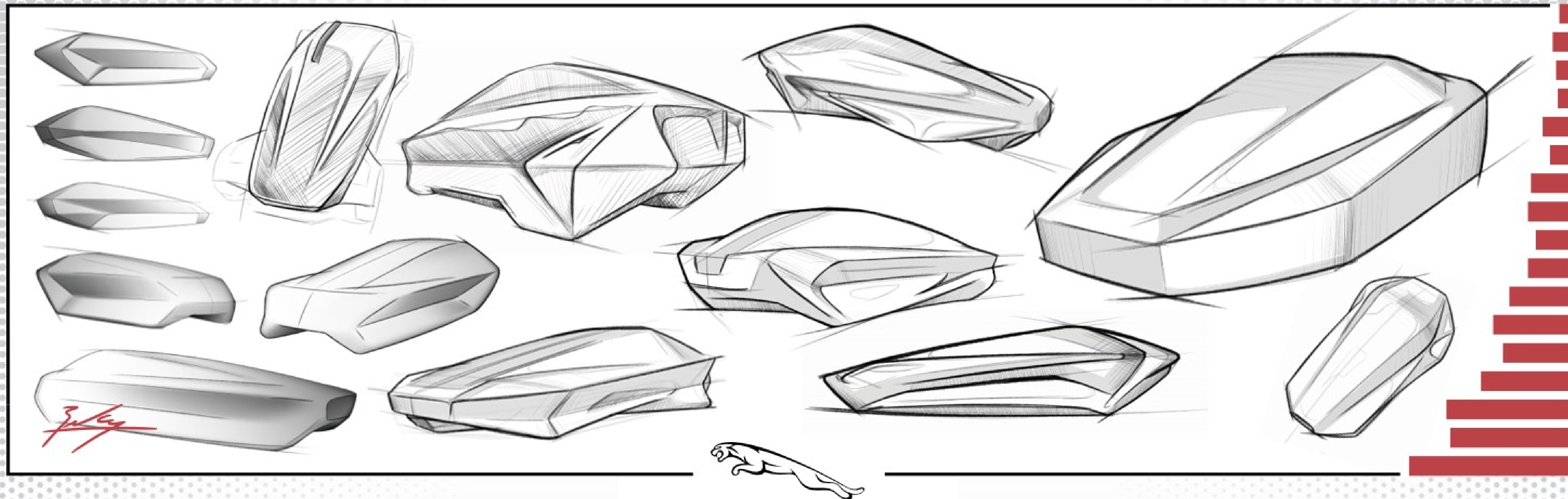
Design



Design

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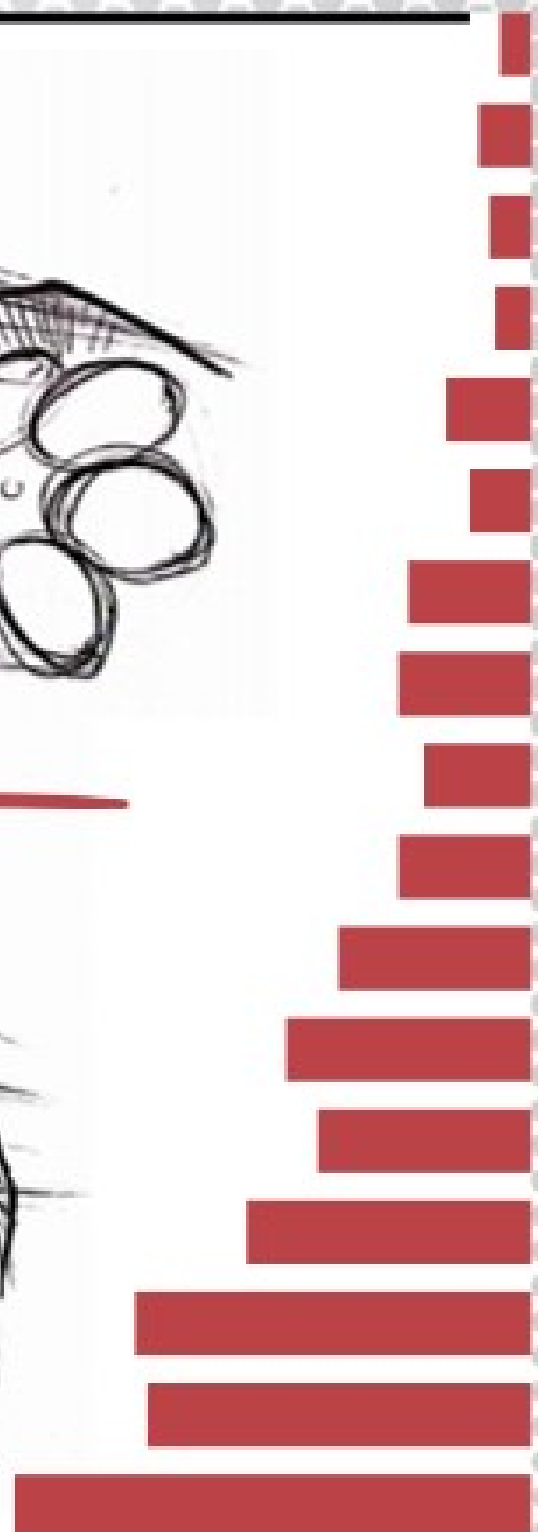
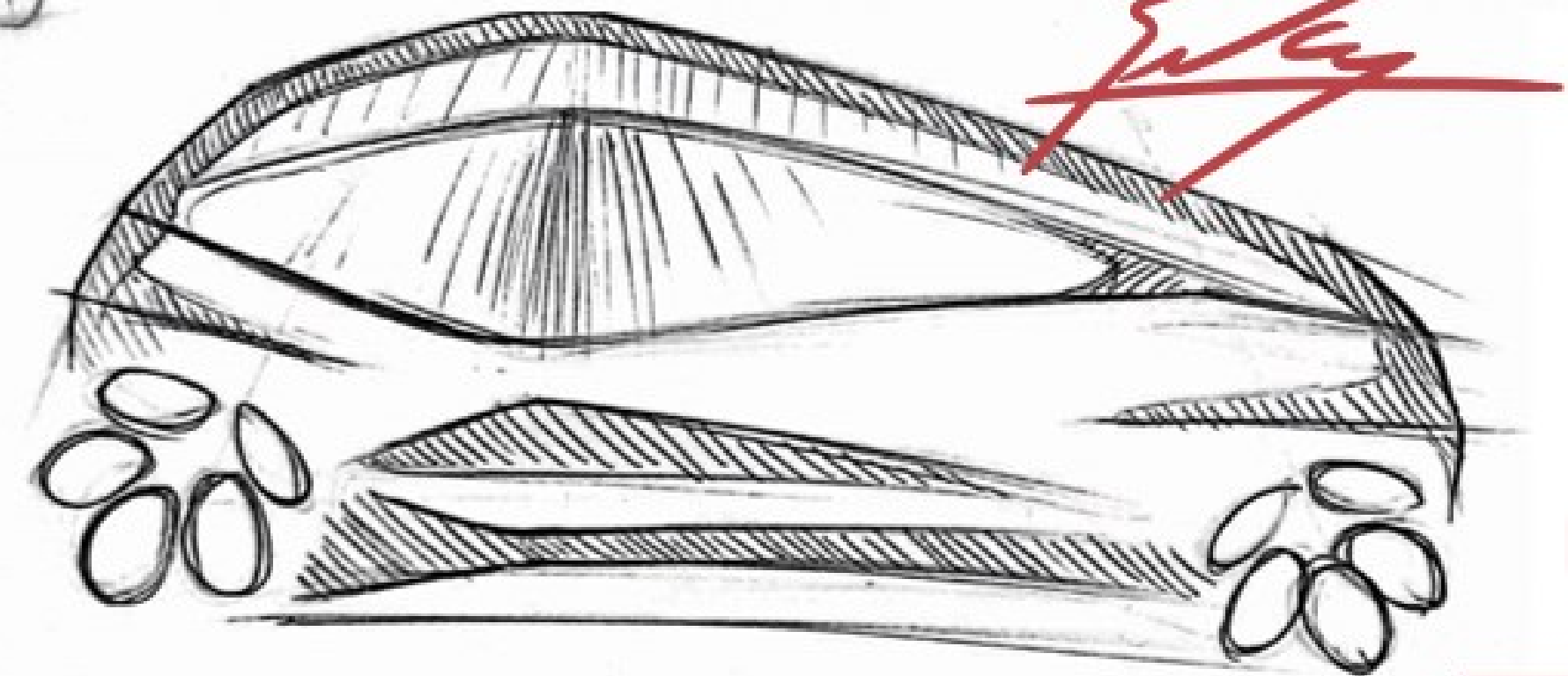
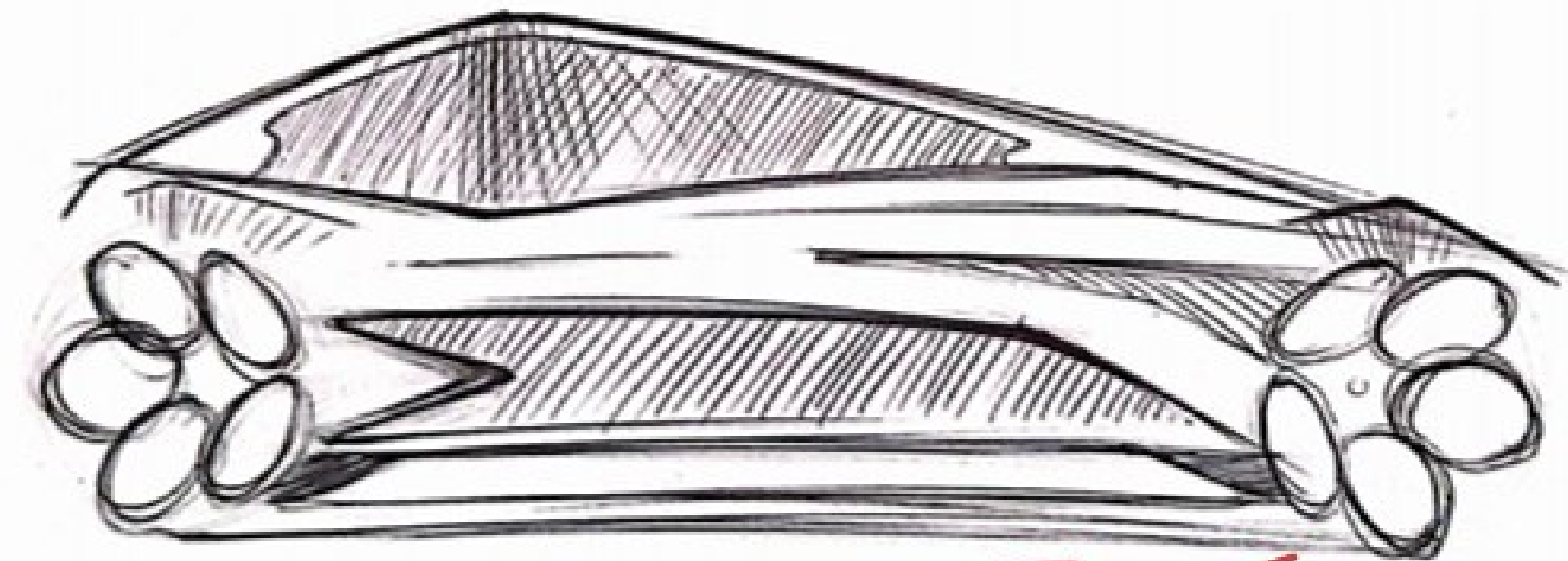
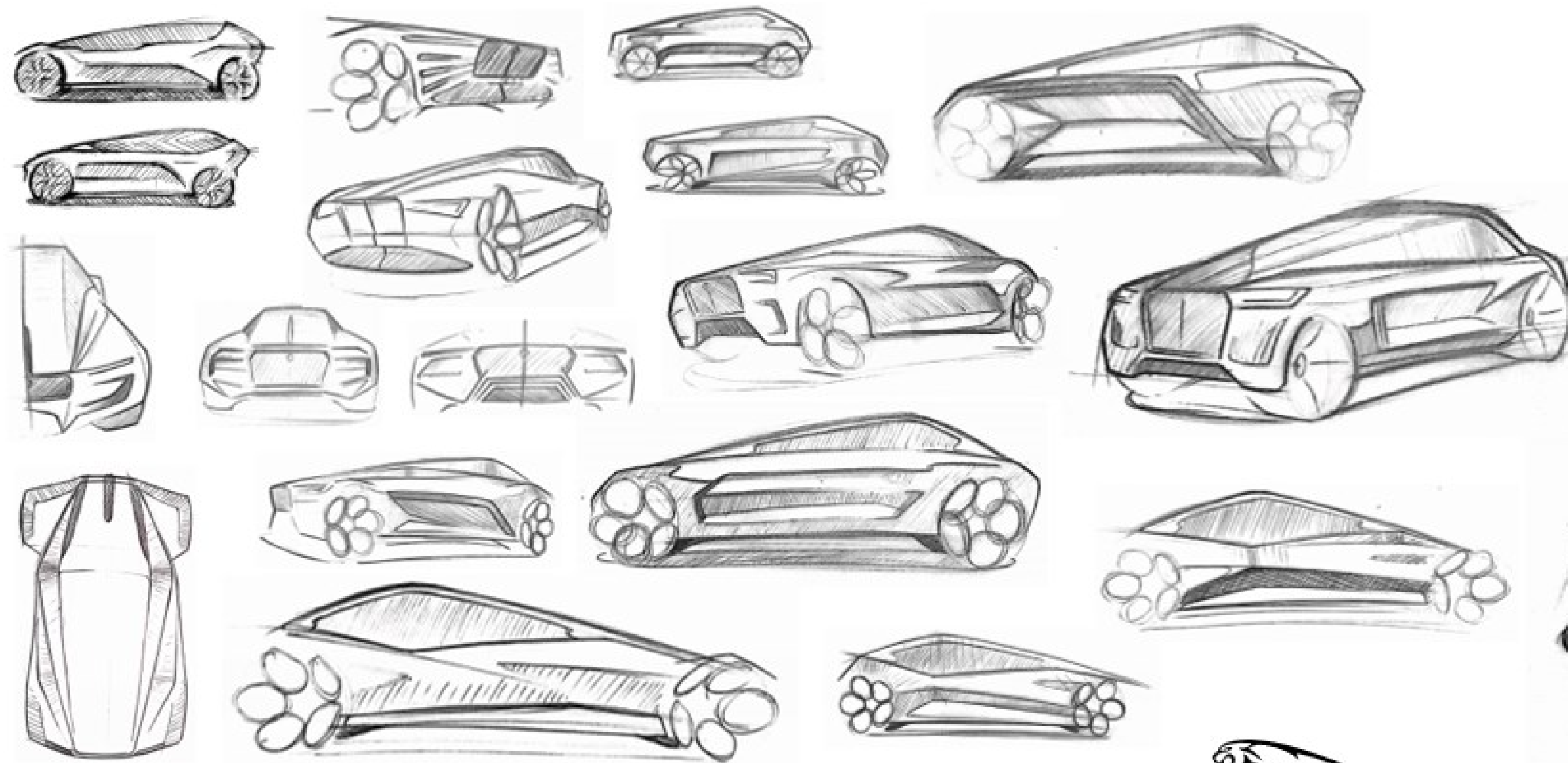
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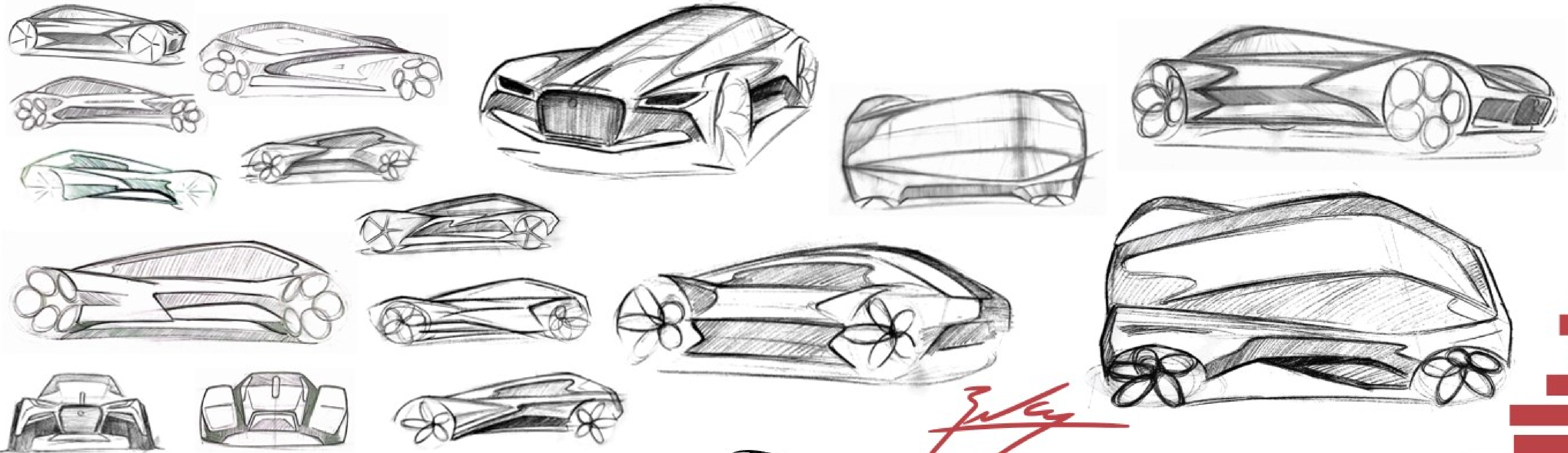
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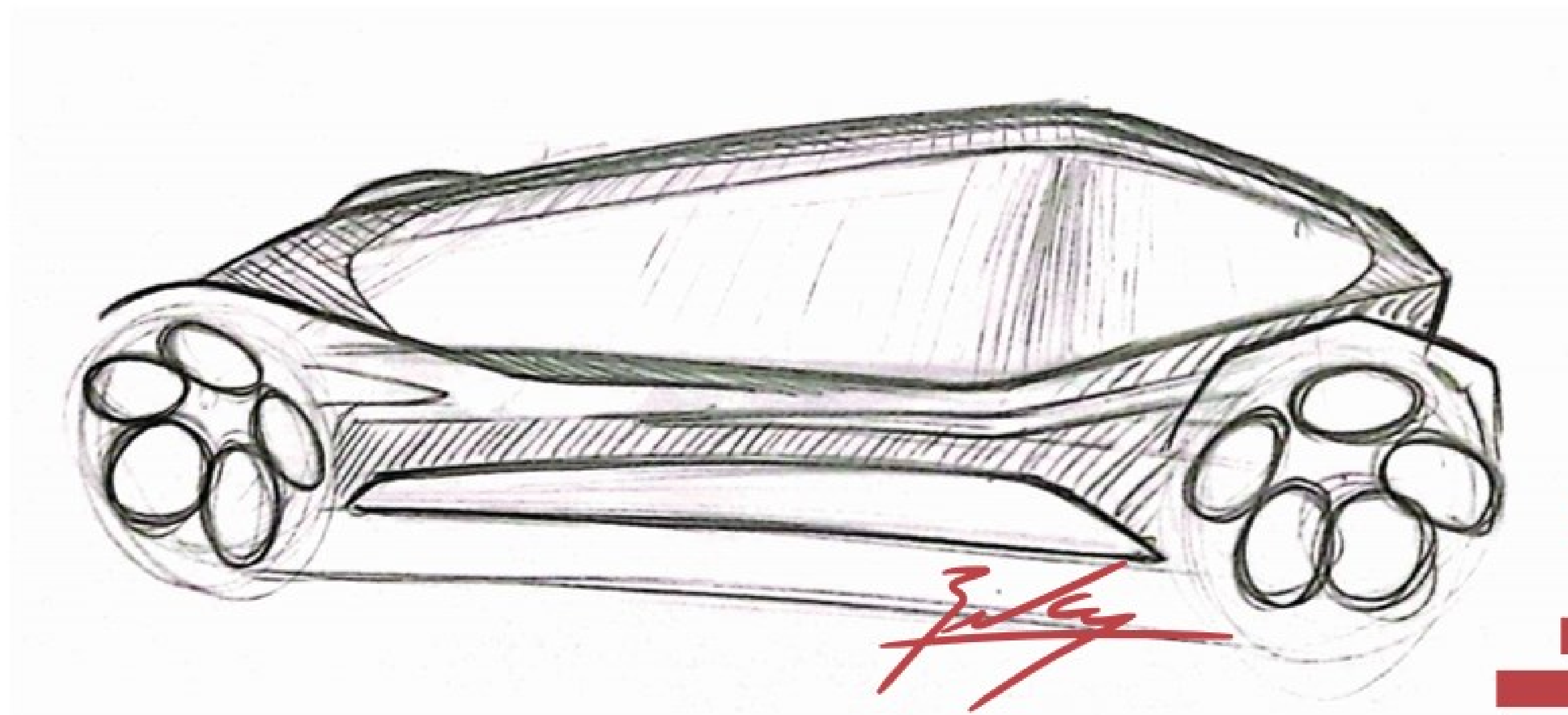
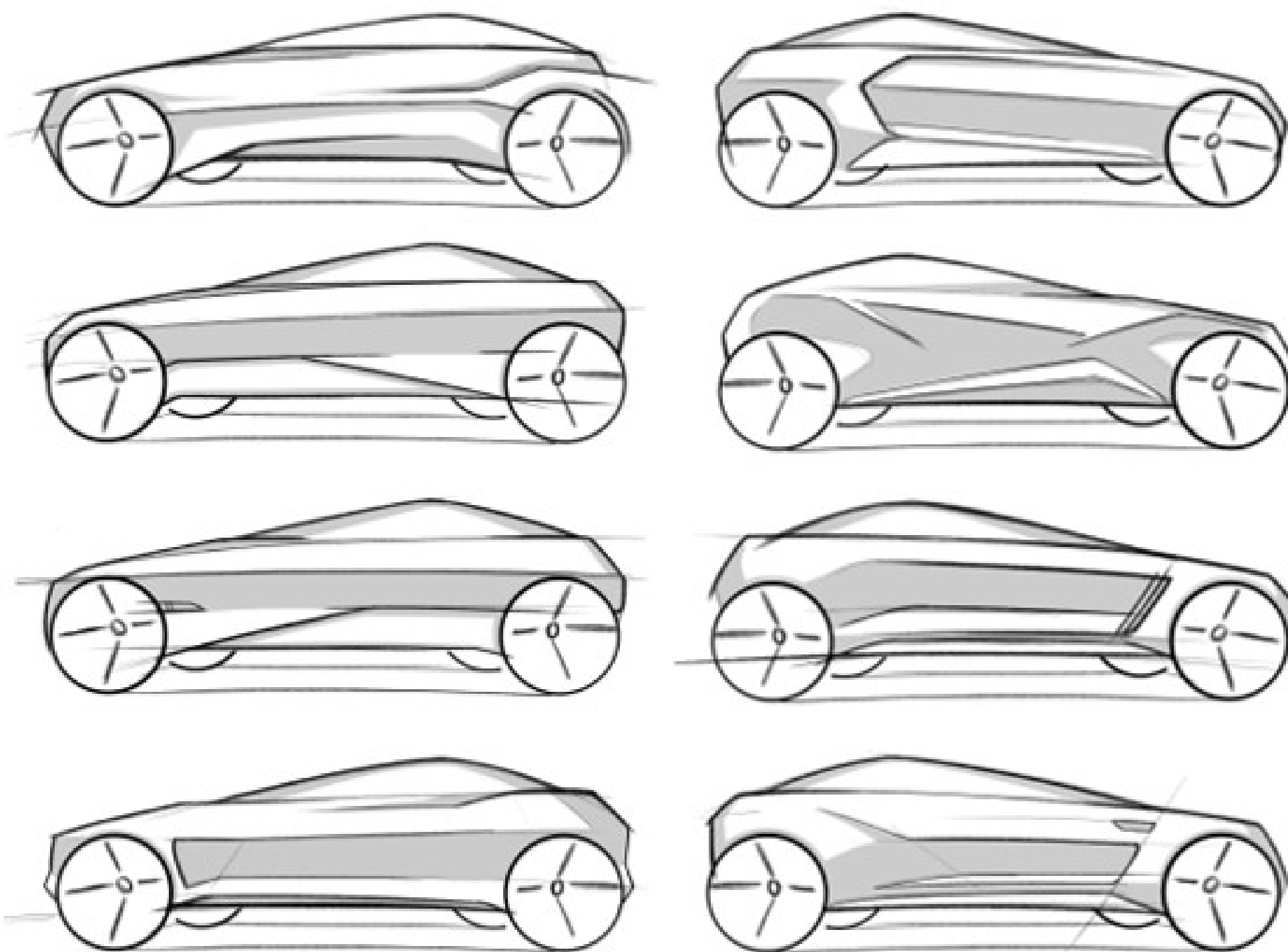
Ben King



Design

BENJAMIN J KINGHGAM

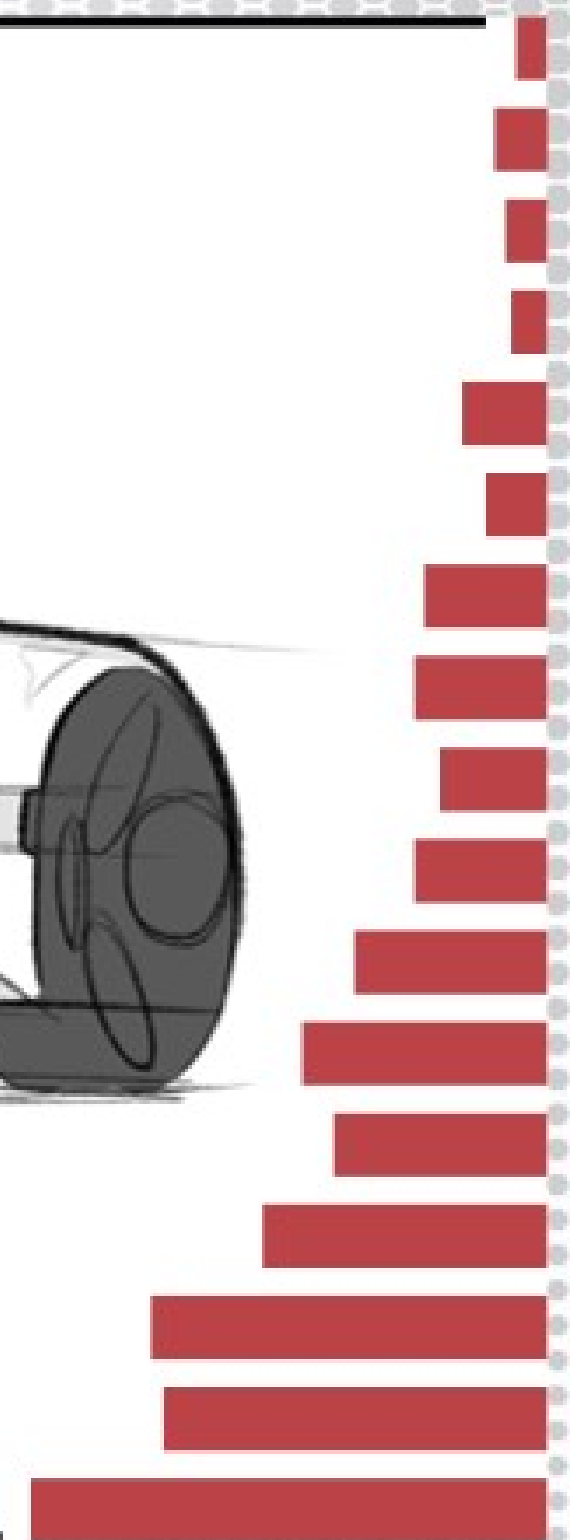
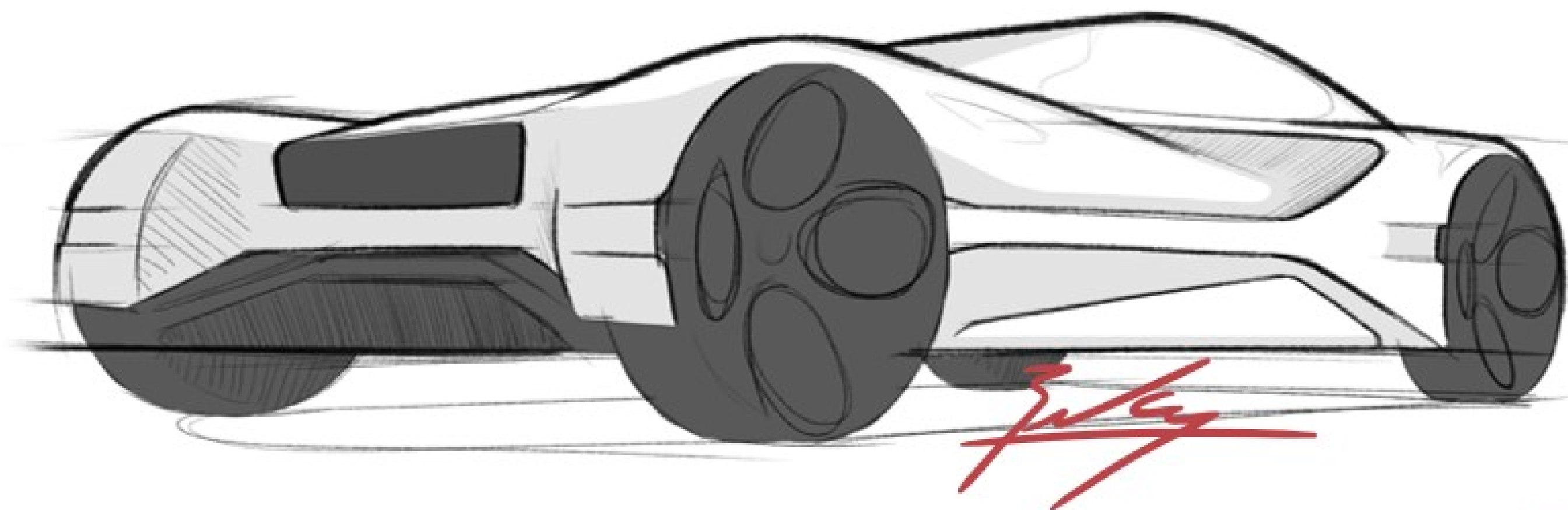
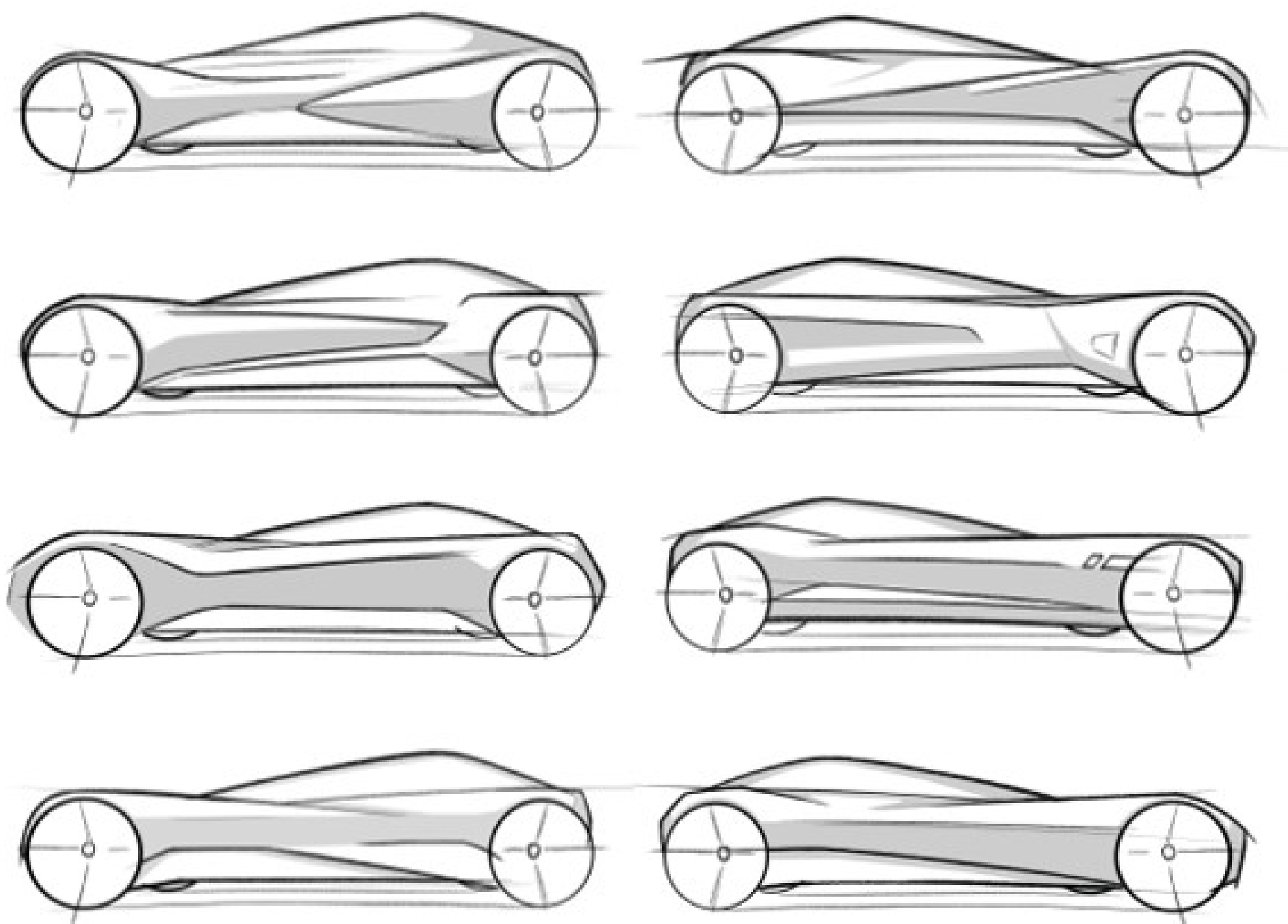
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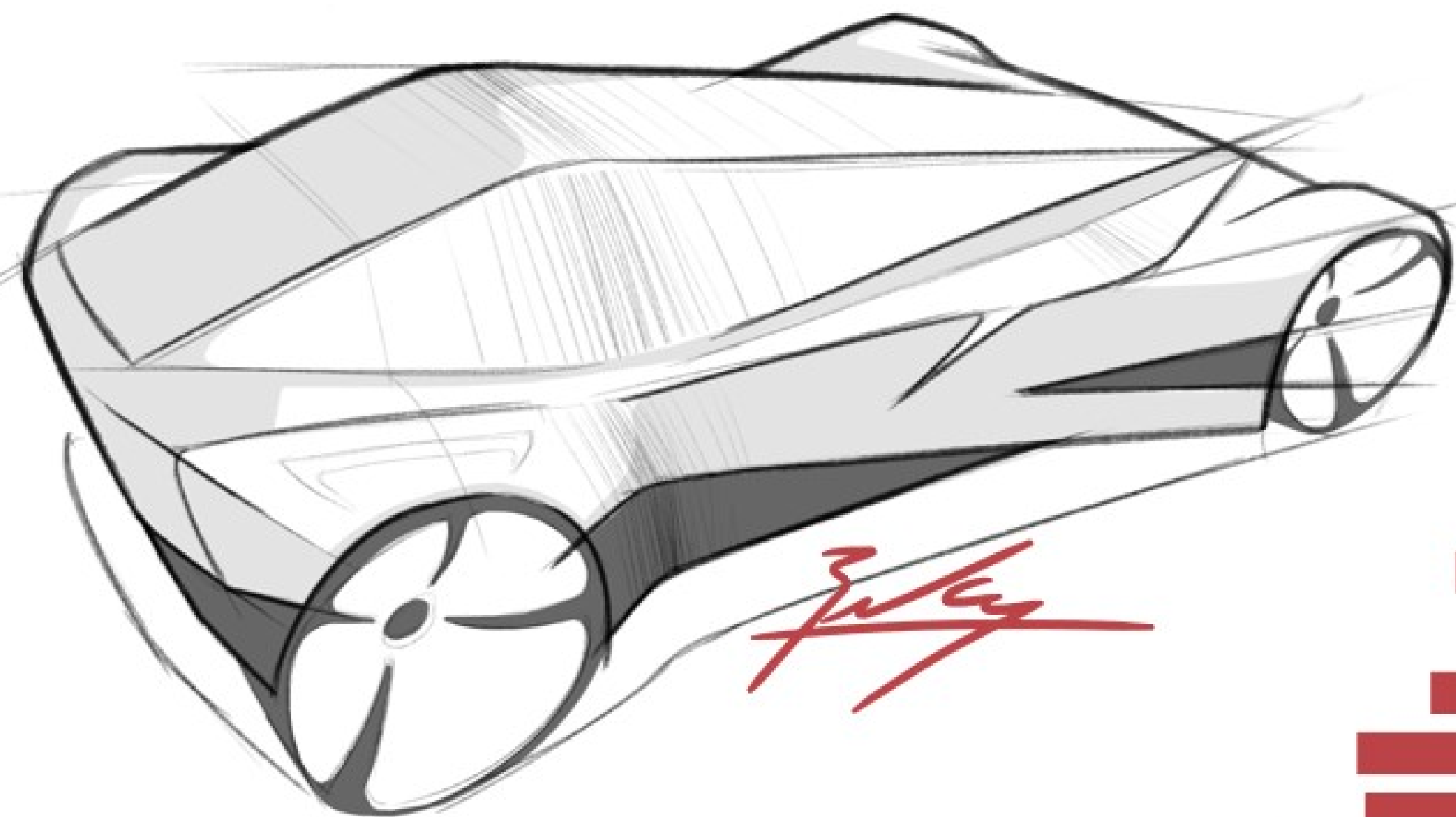
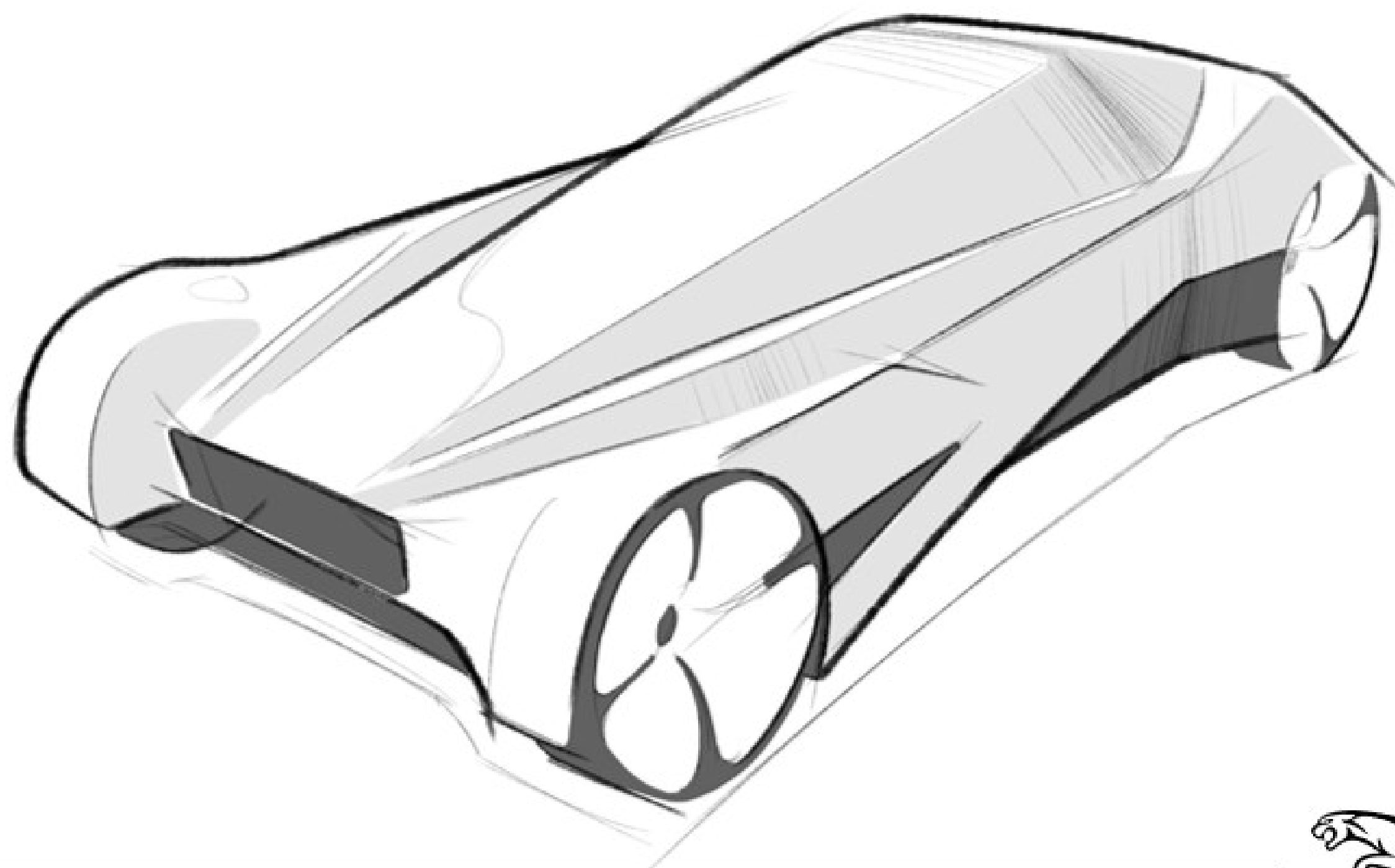
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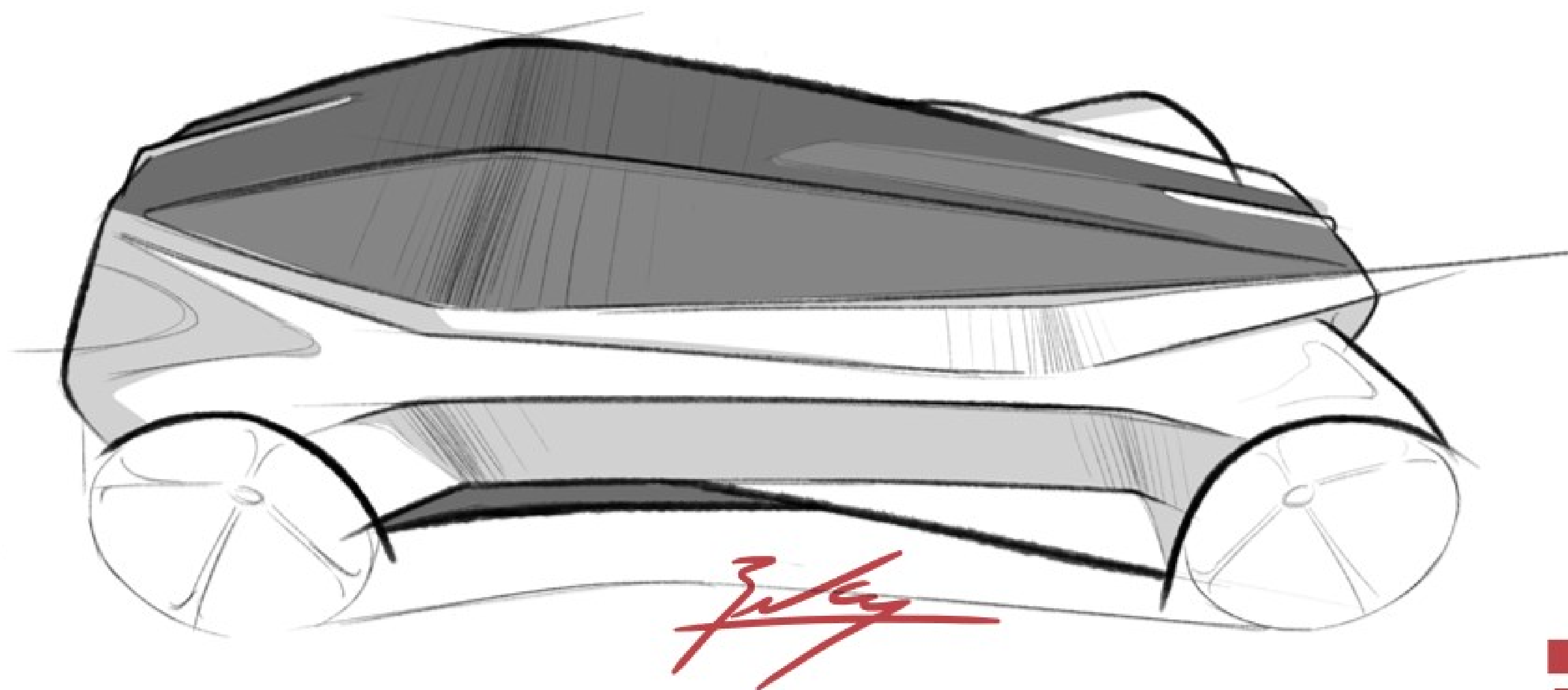
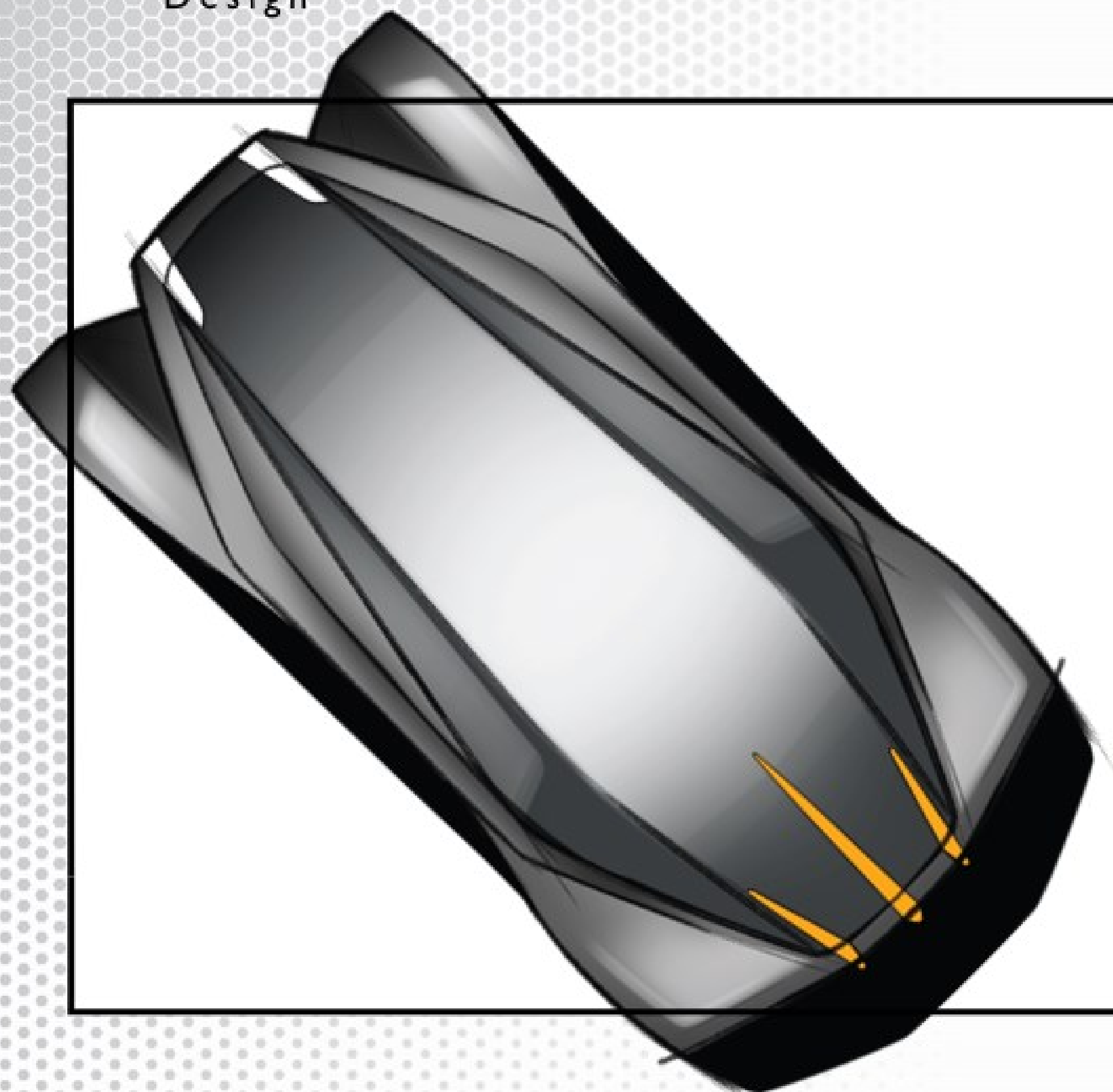
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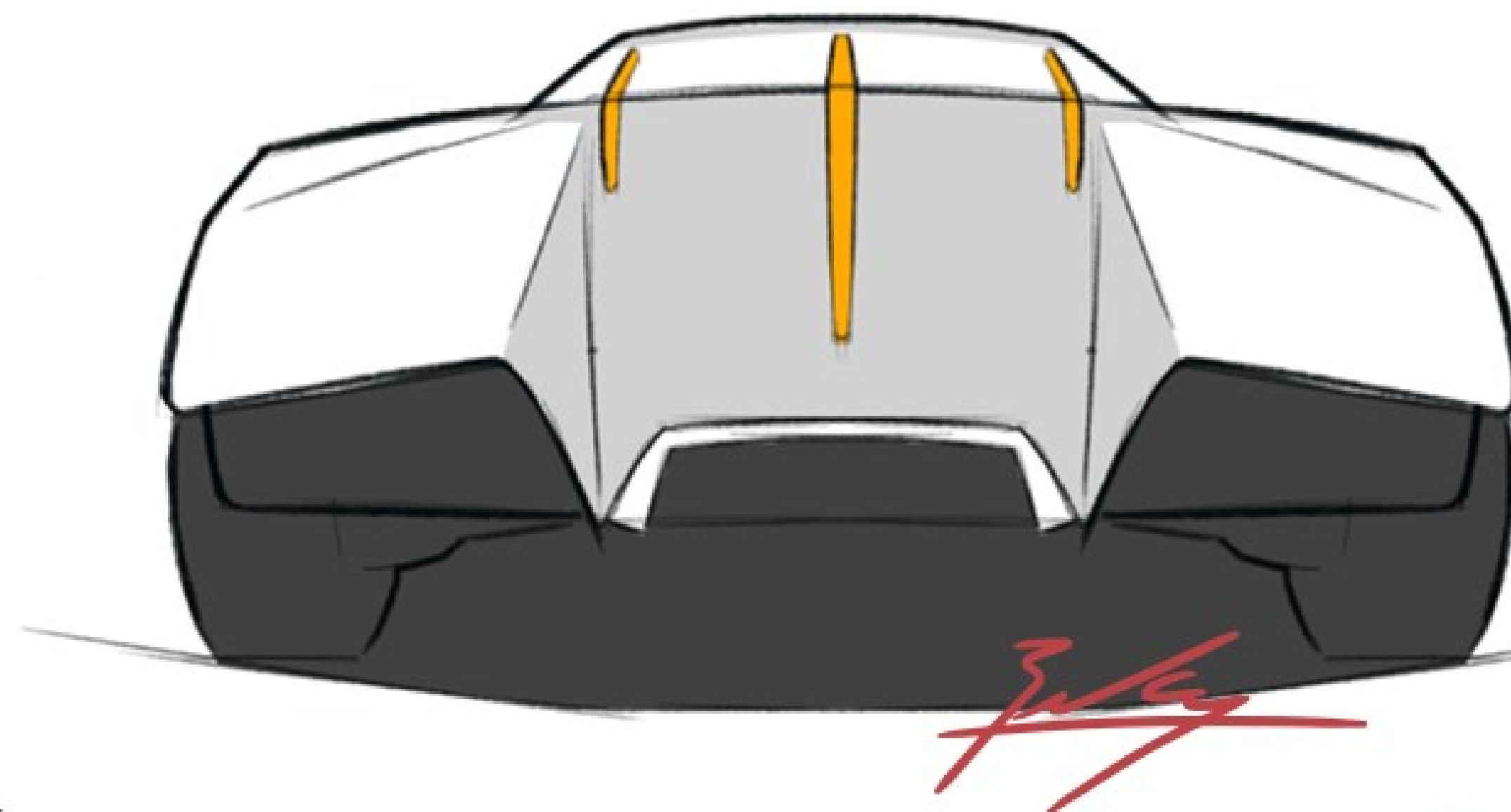
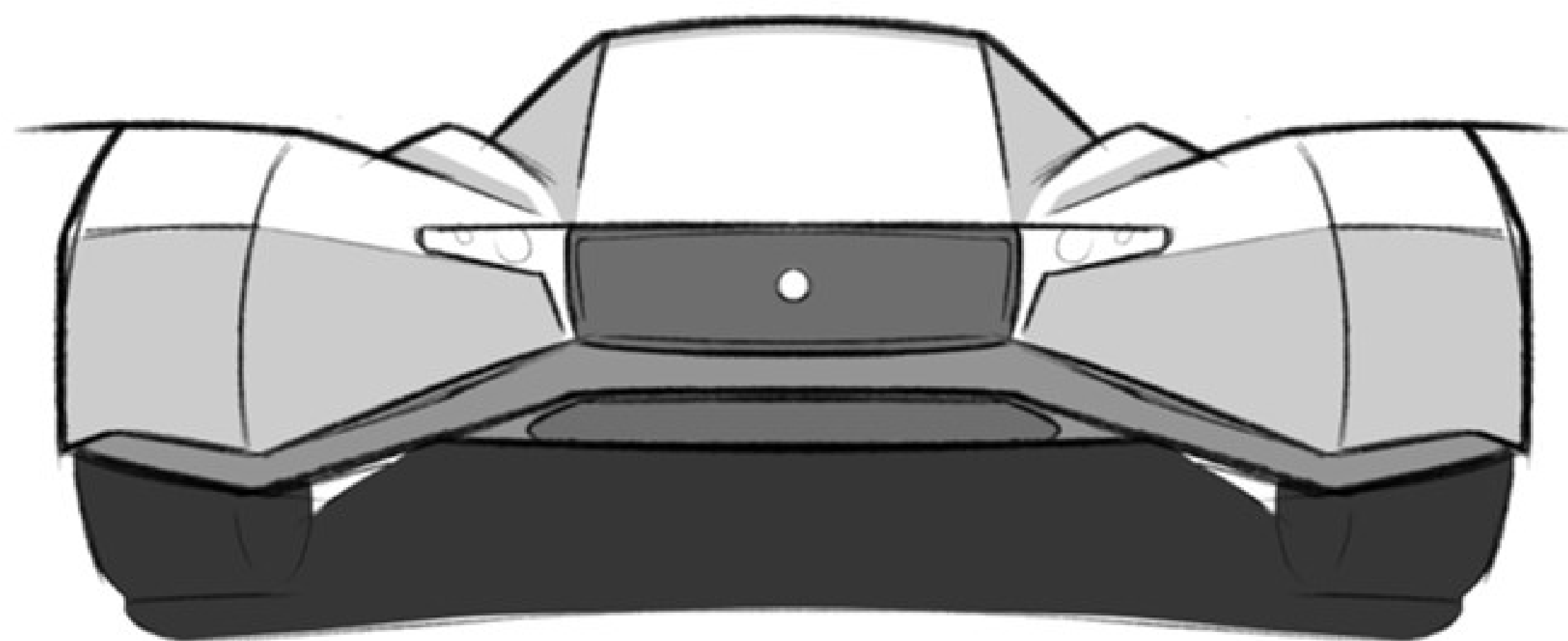
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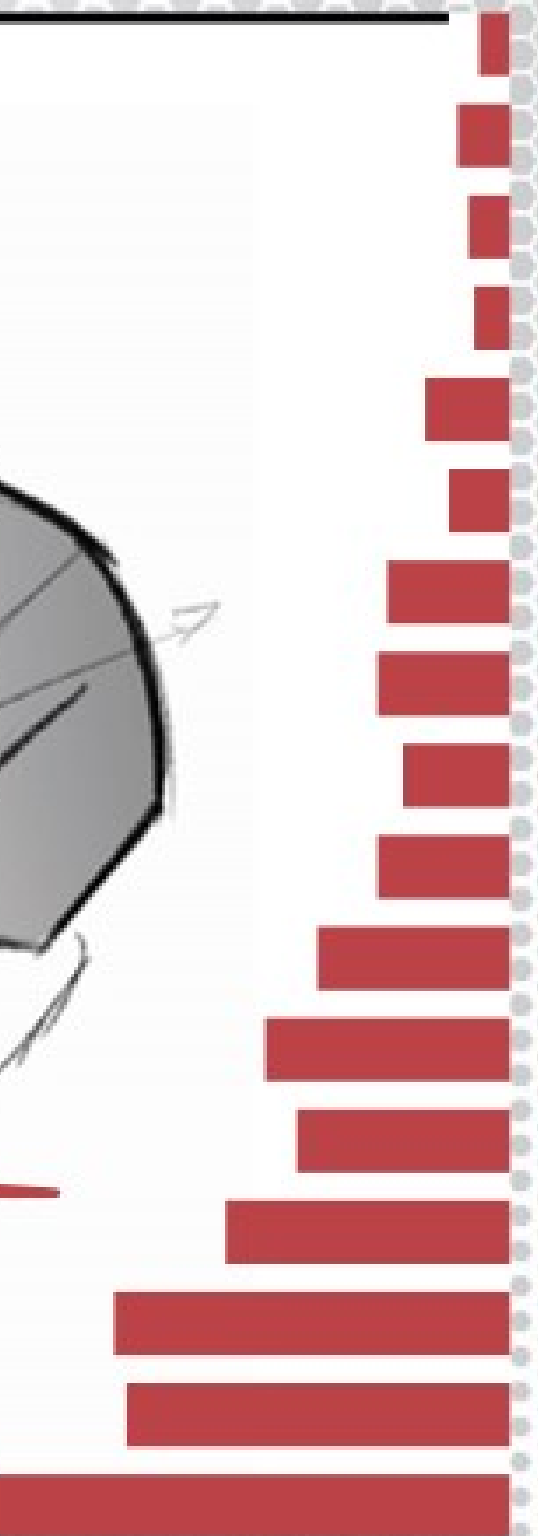
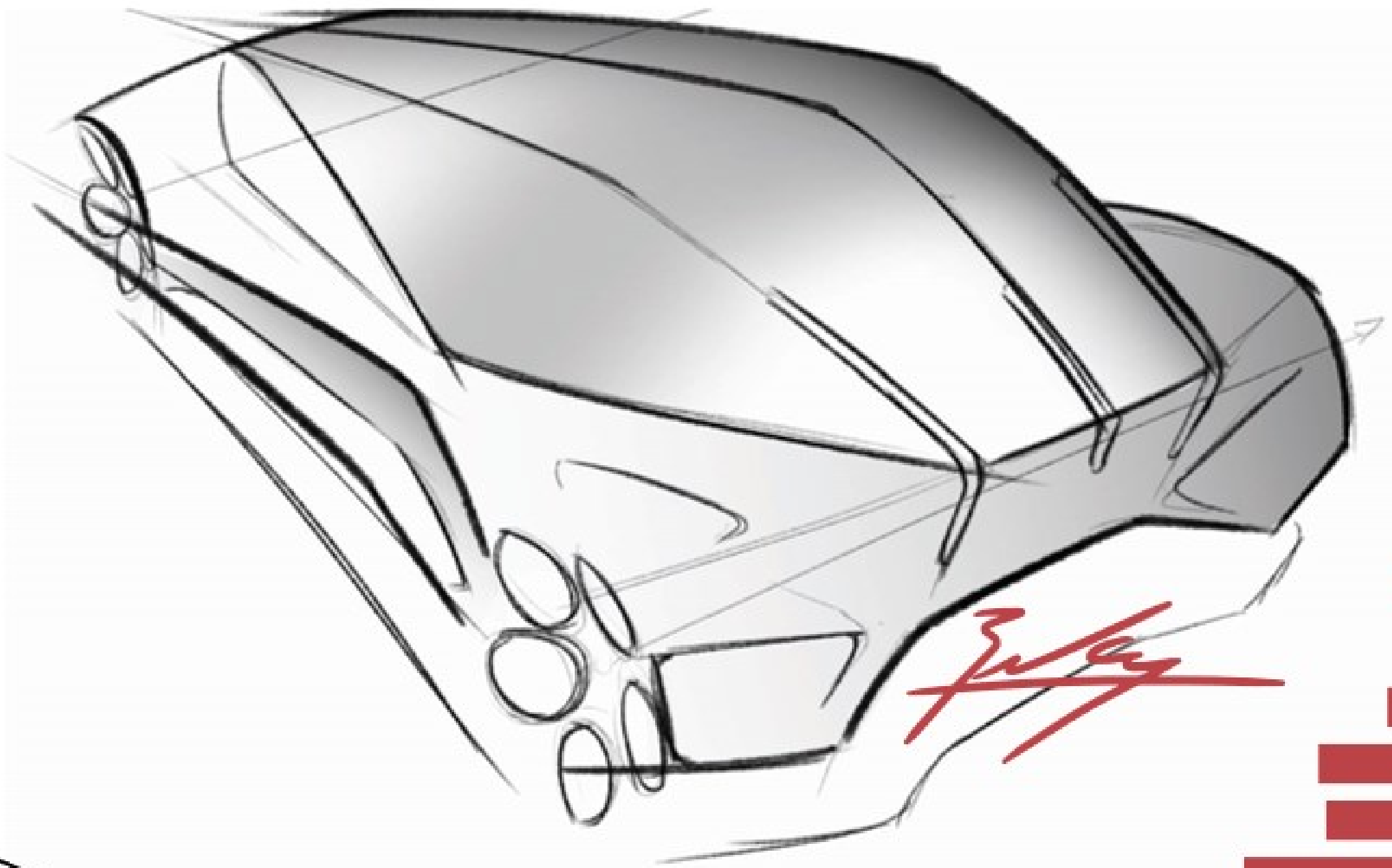
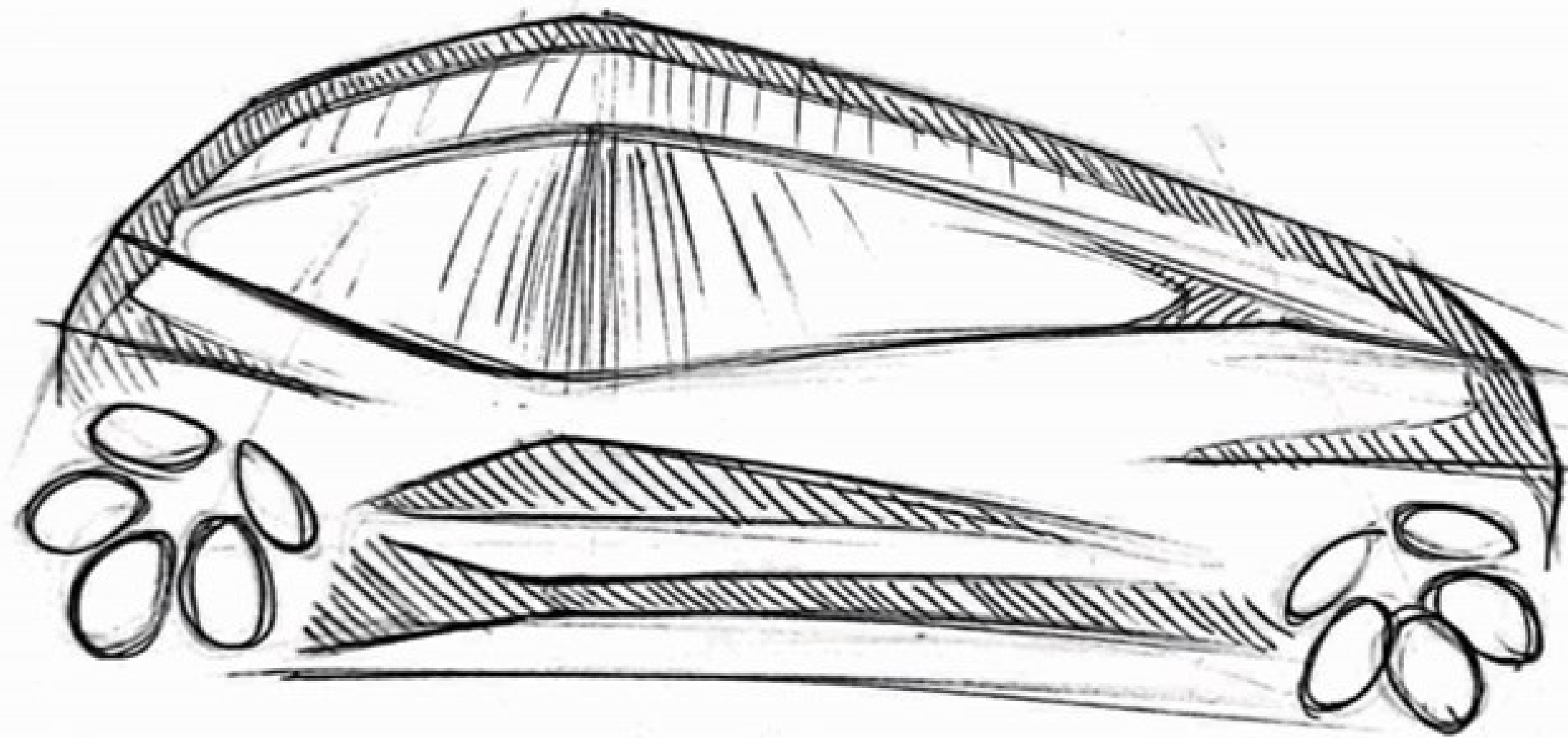
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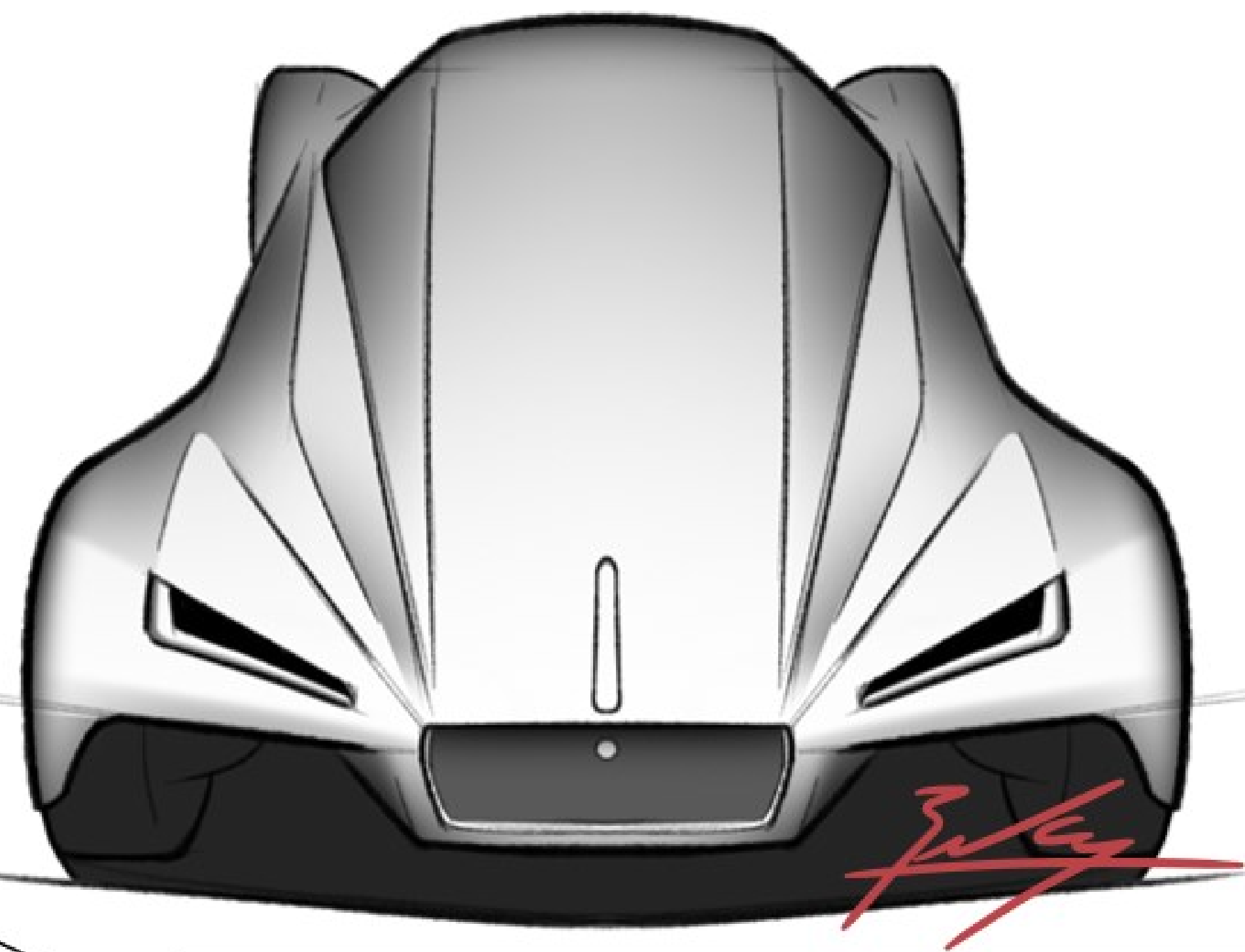
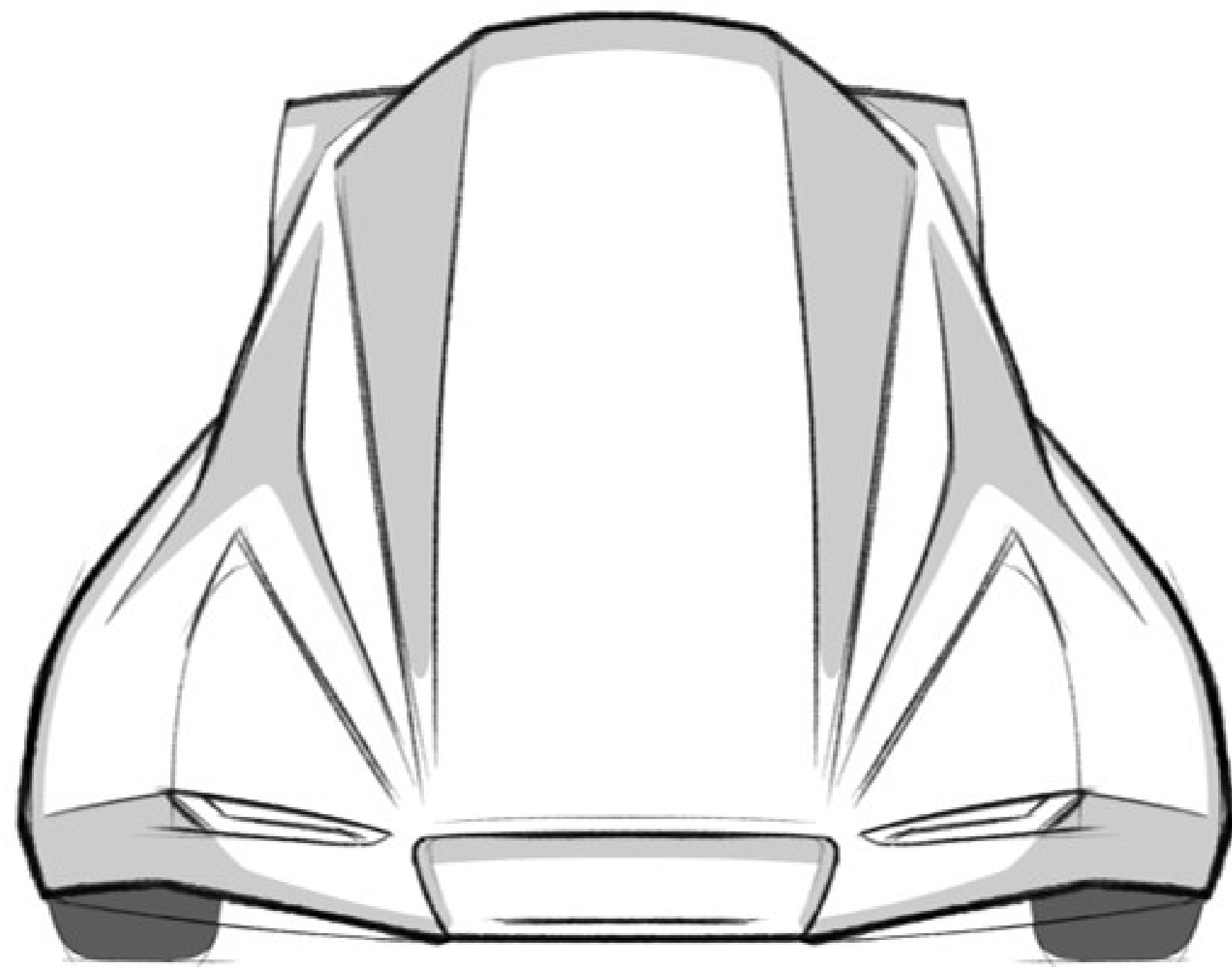
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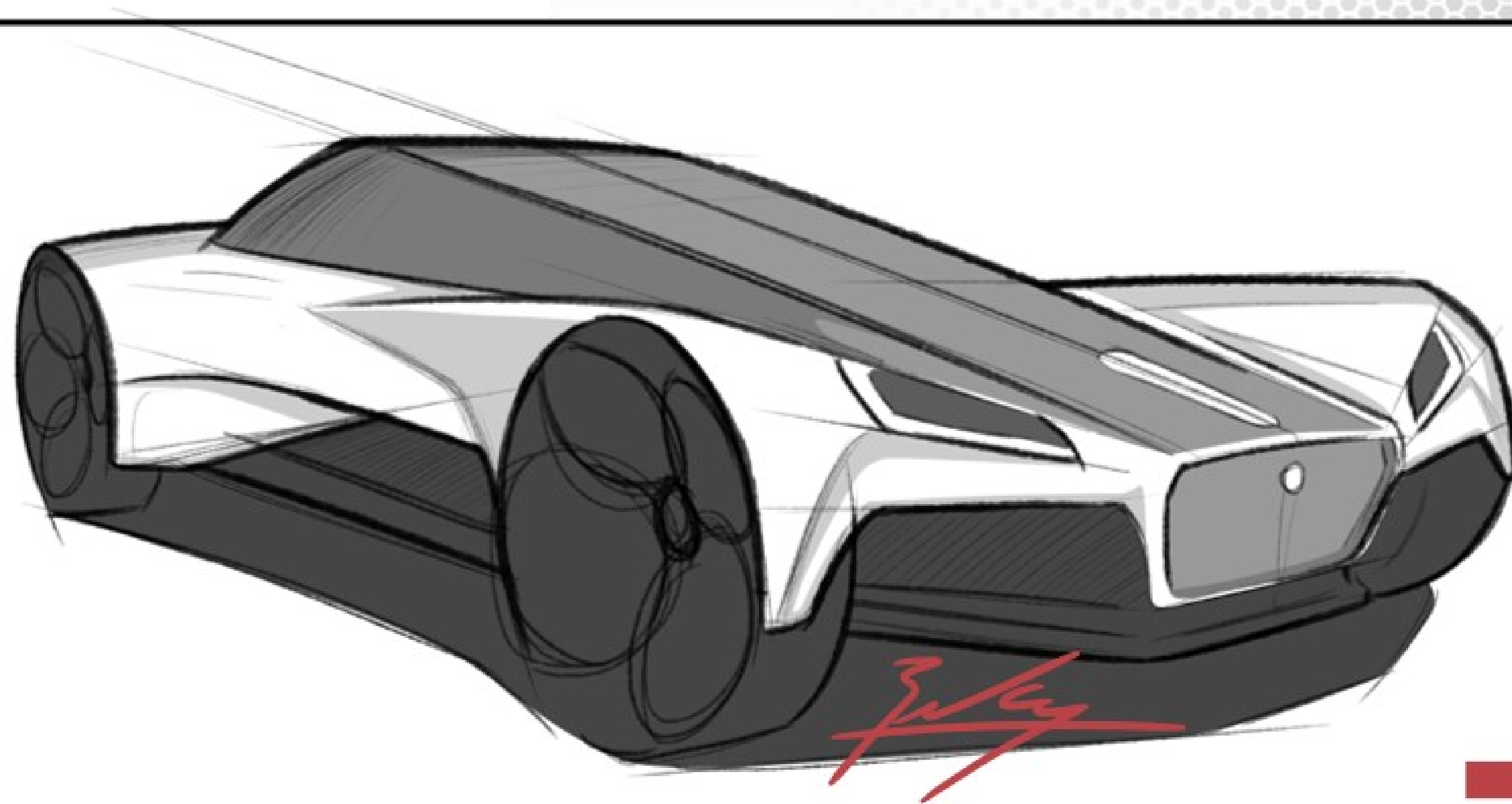
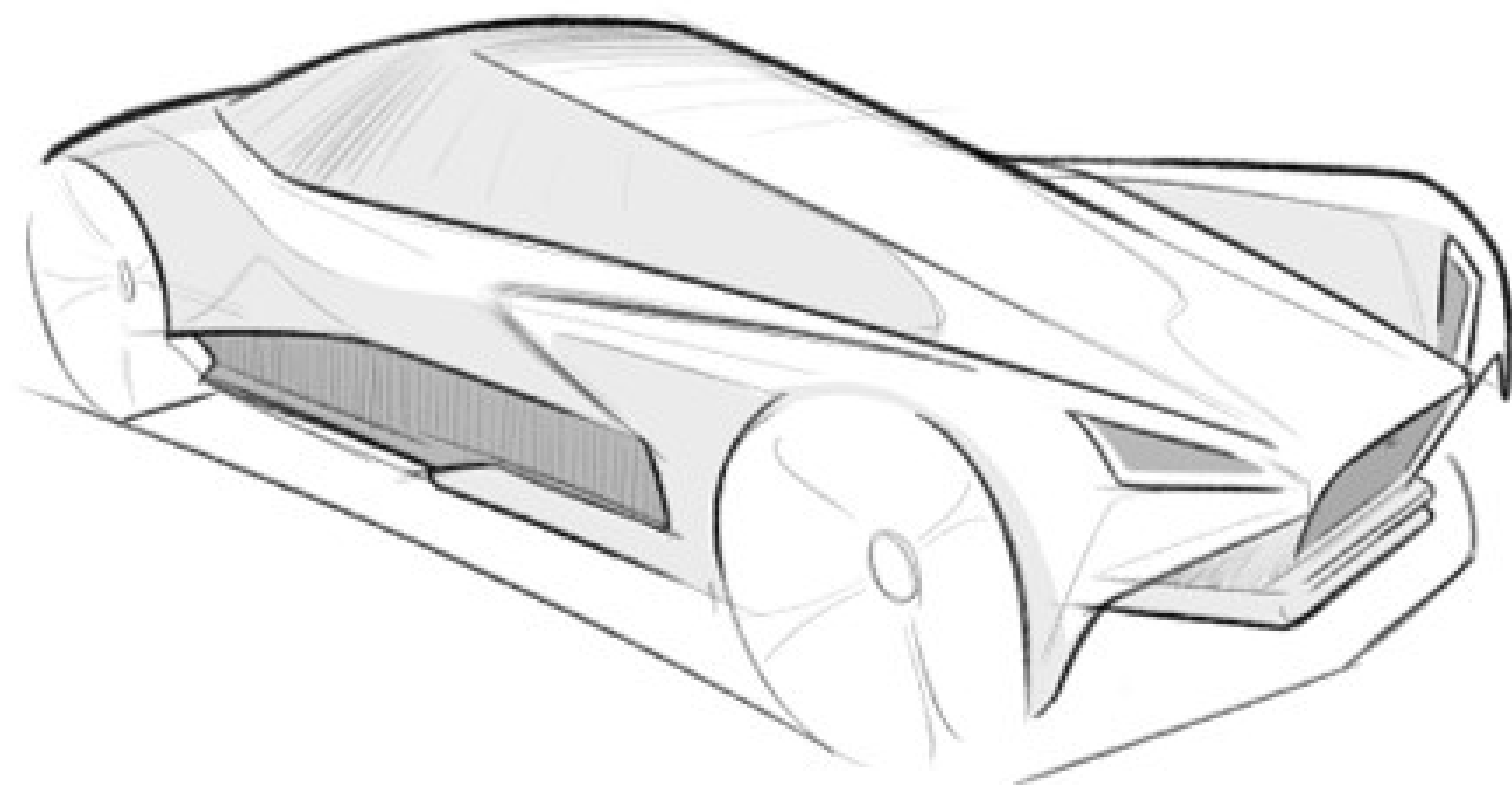
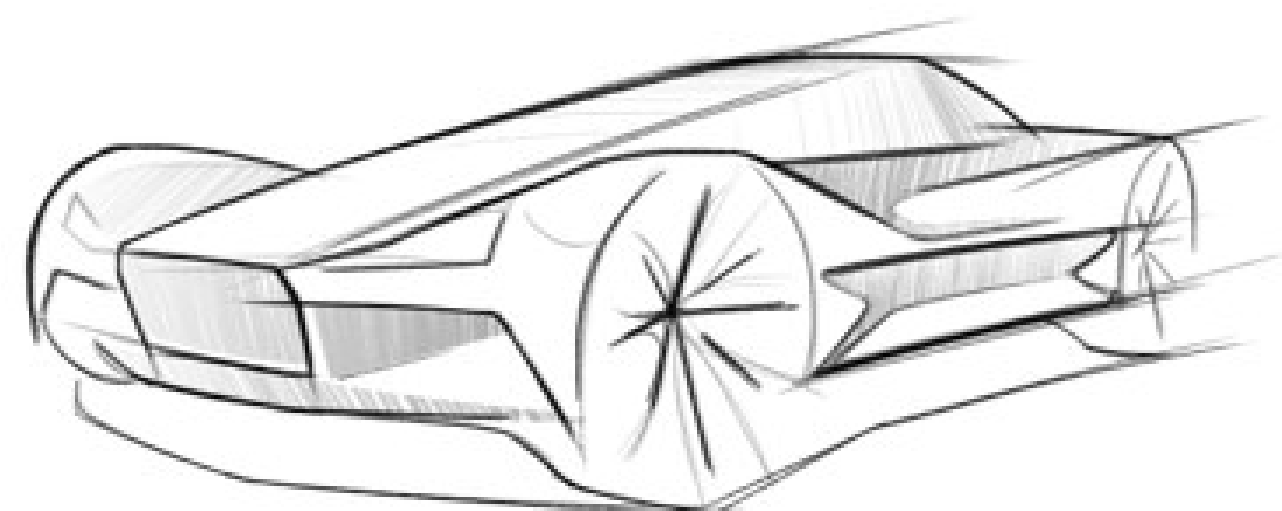
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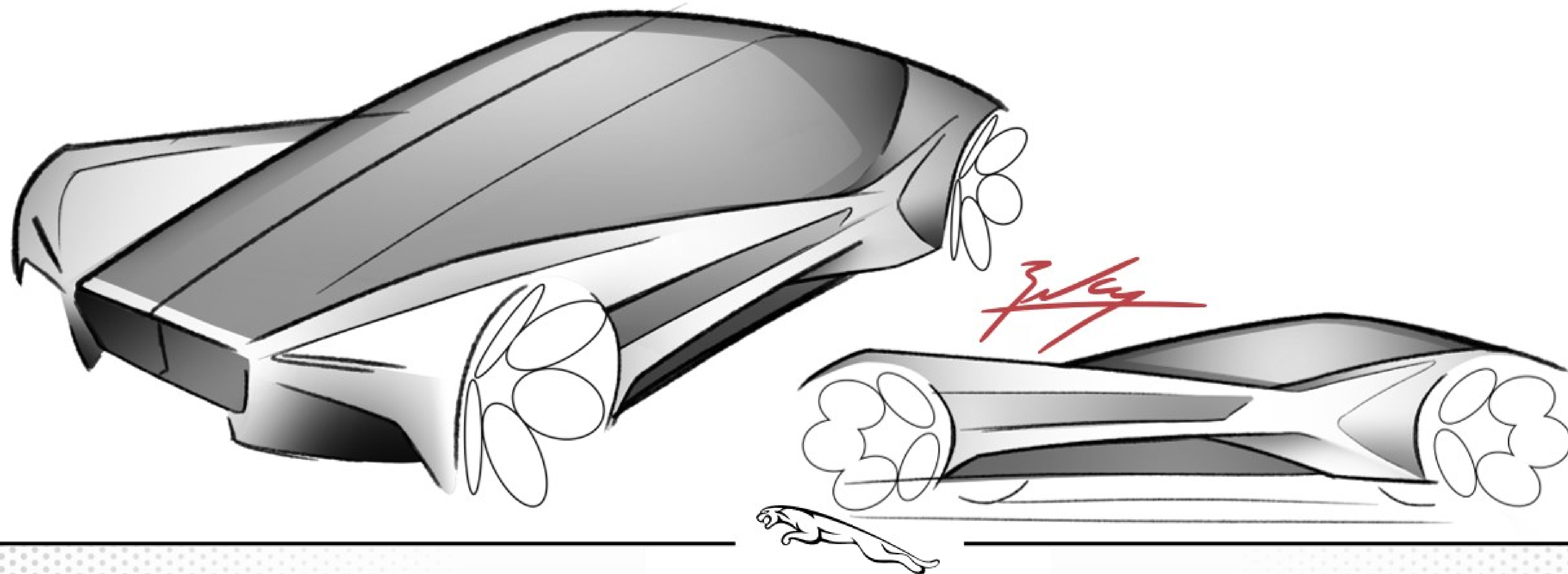
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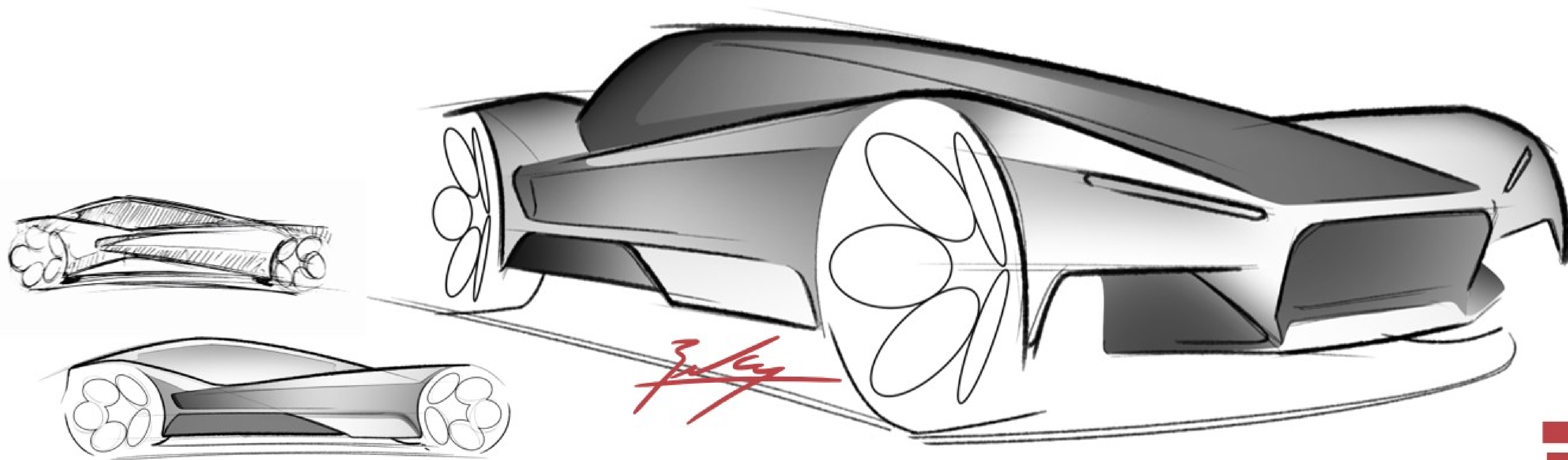
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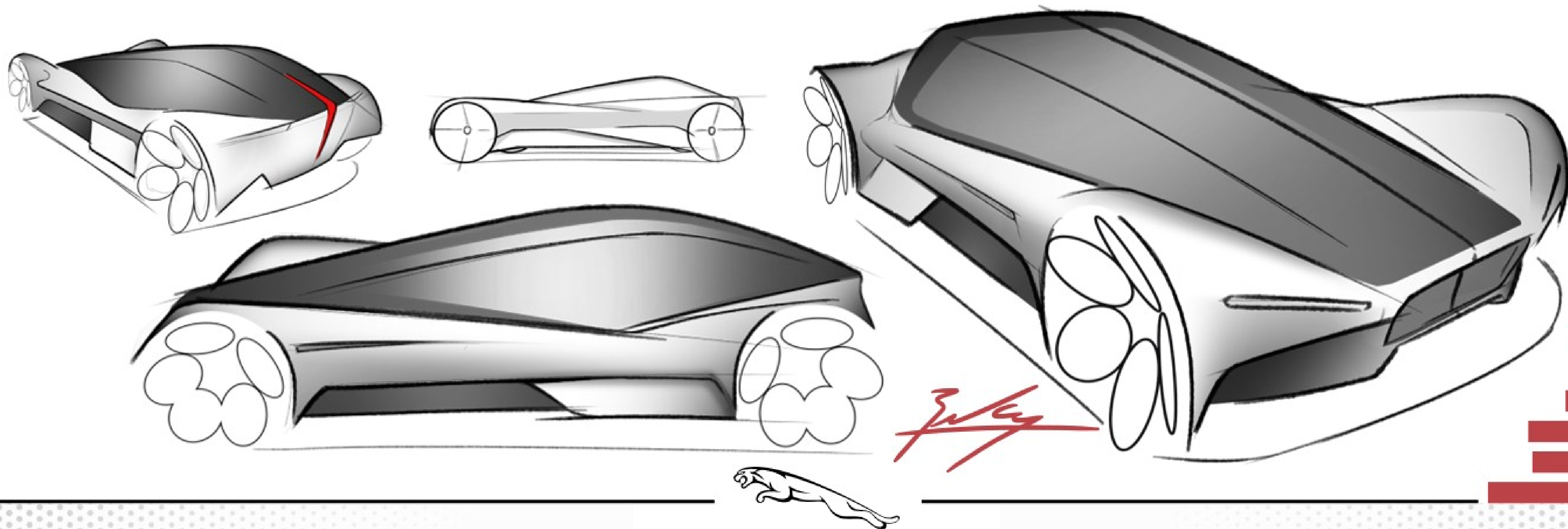
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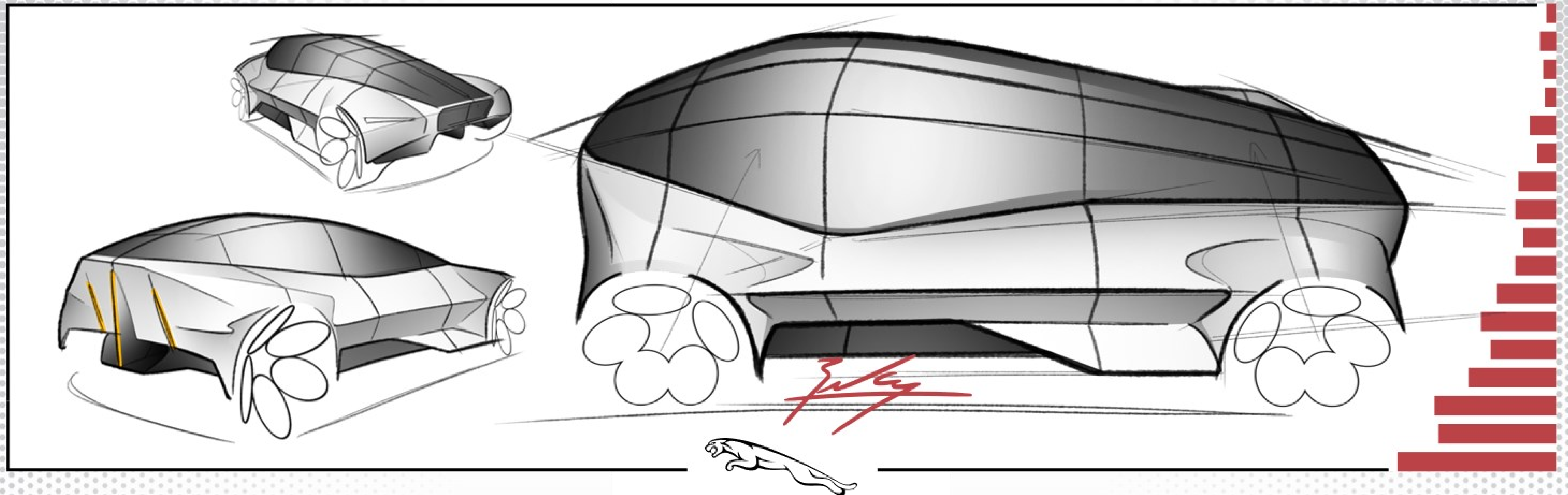
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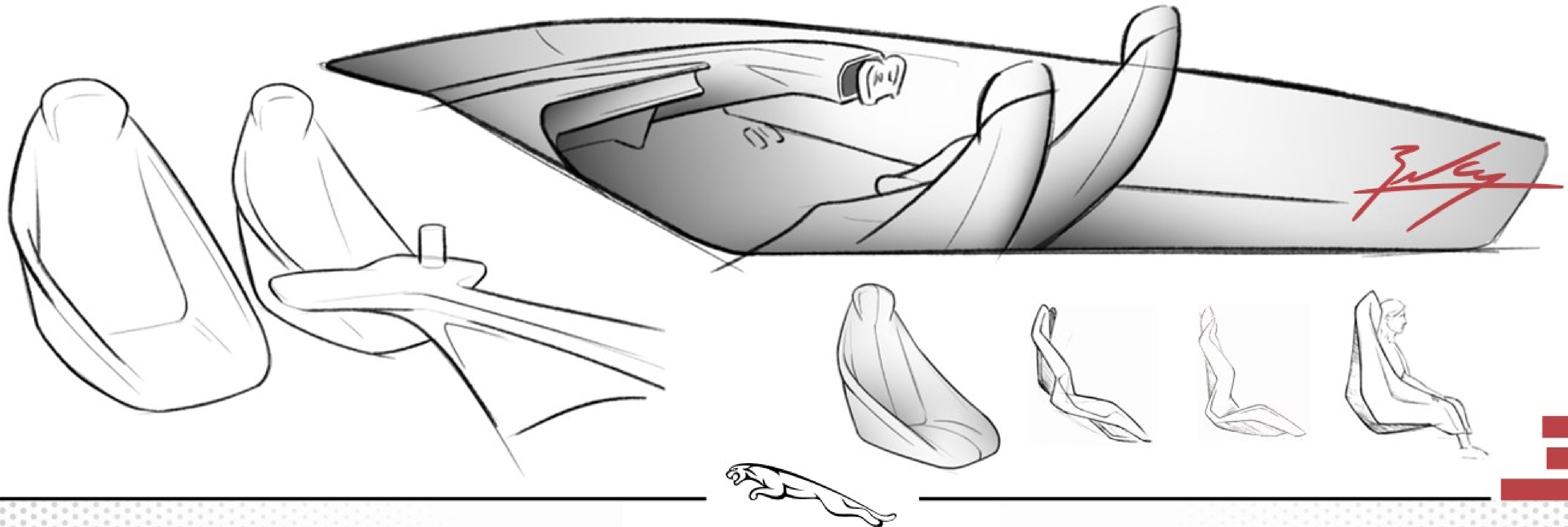
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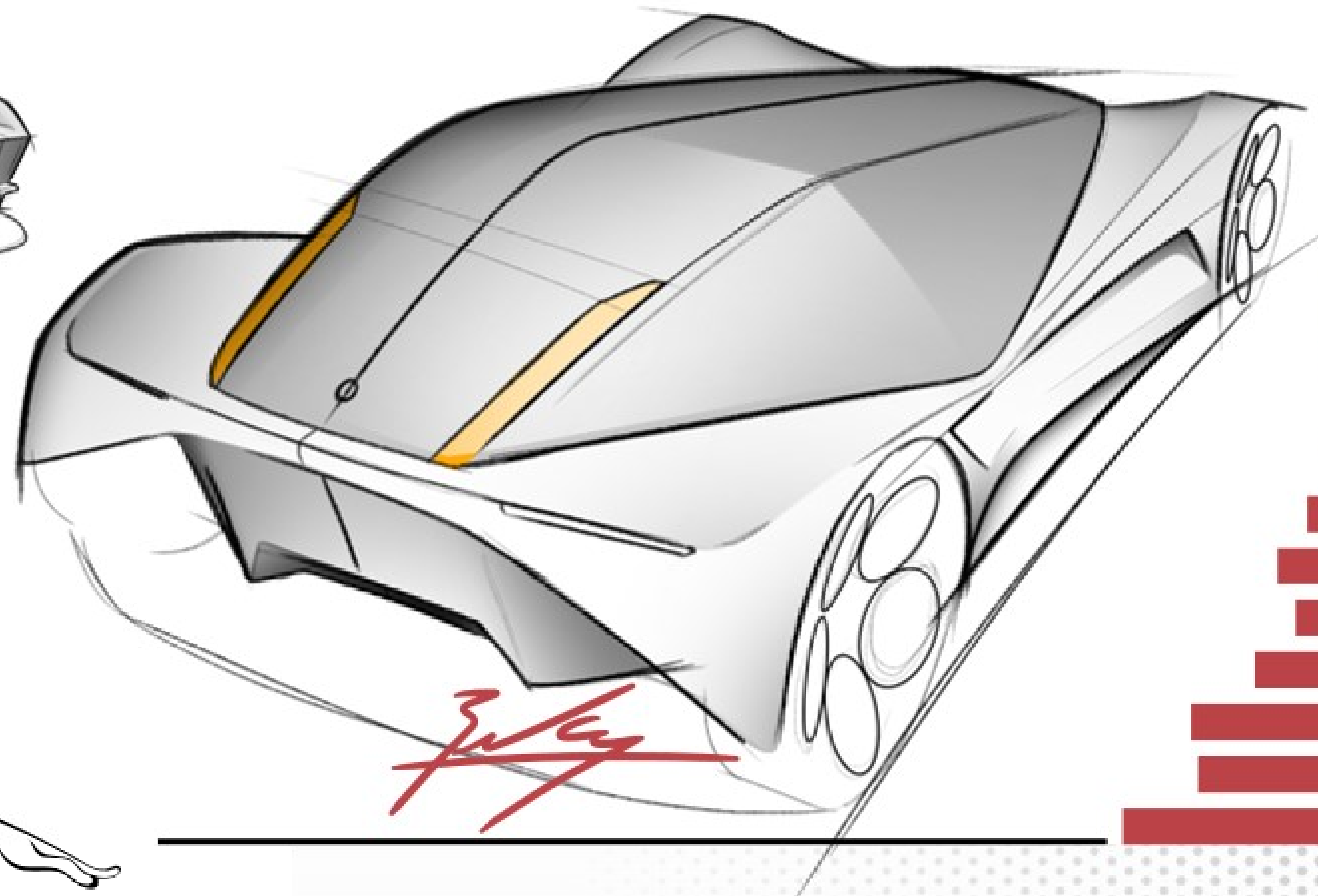
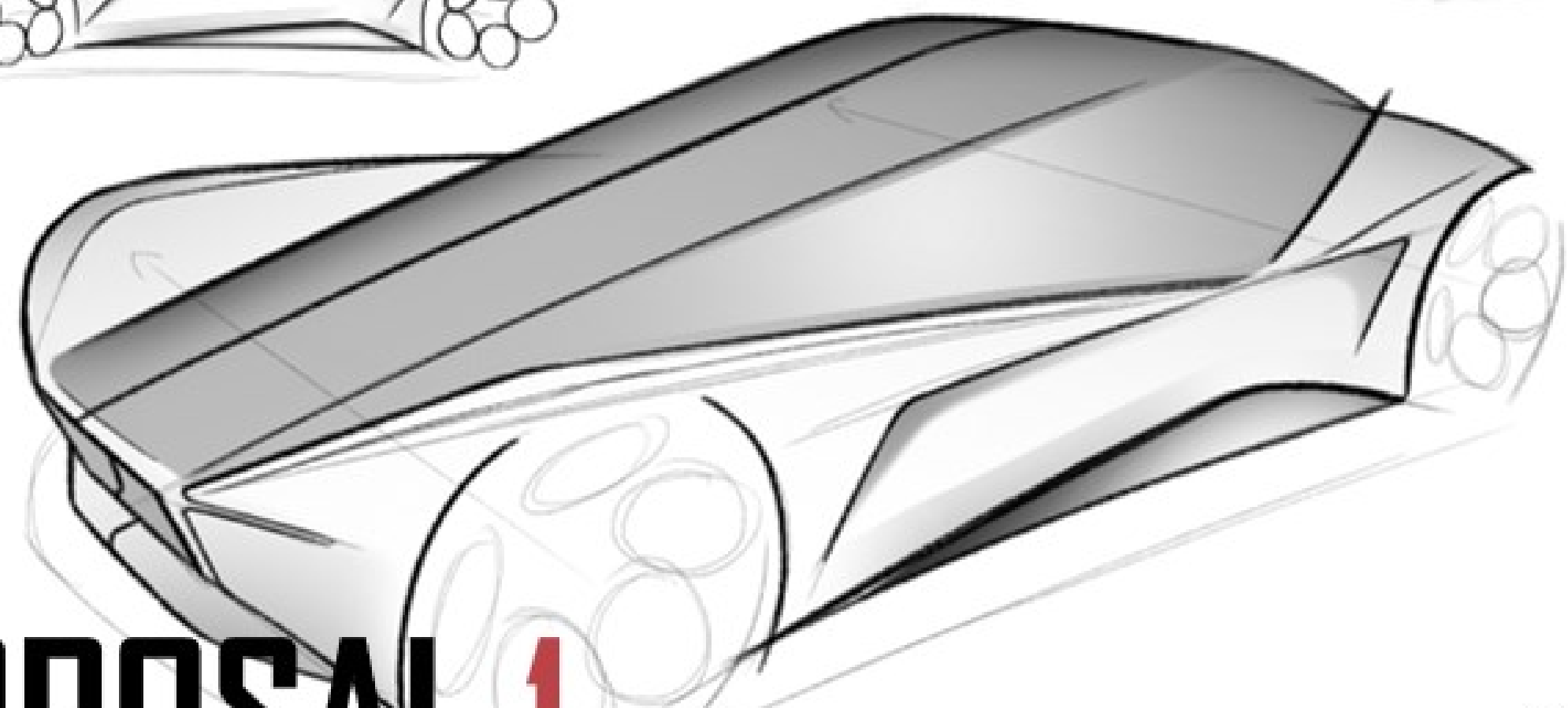
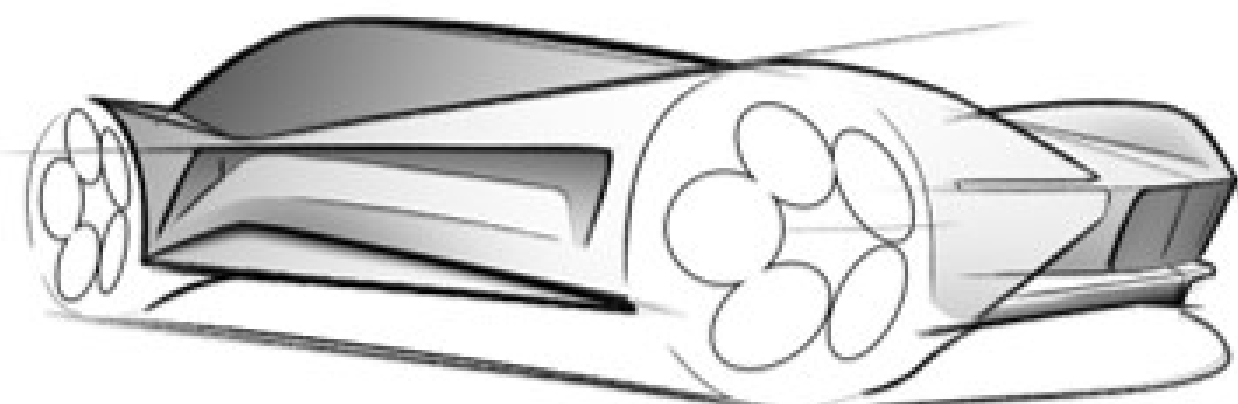
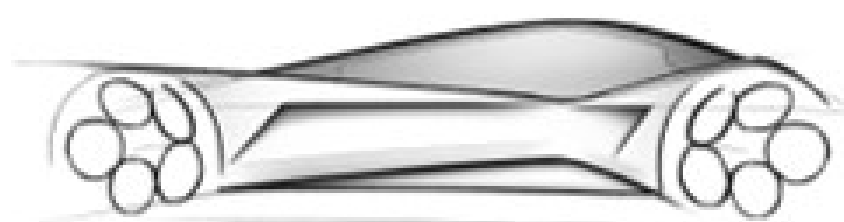
Proposals

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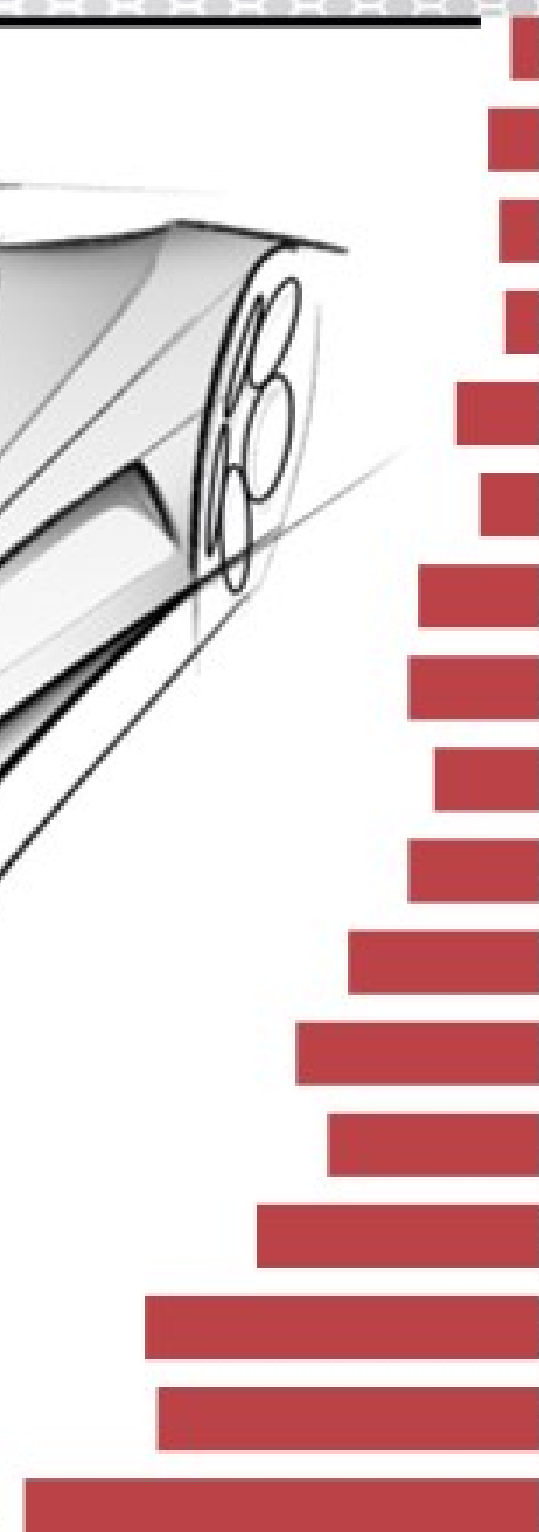
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Proposals





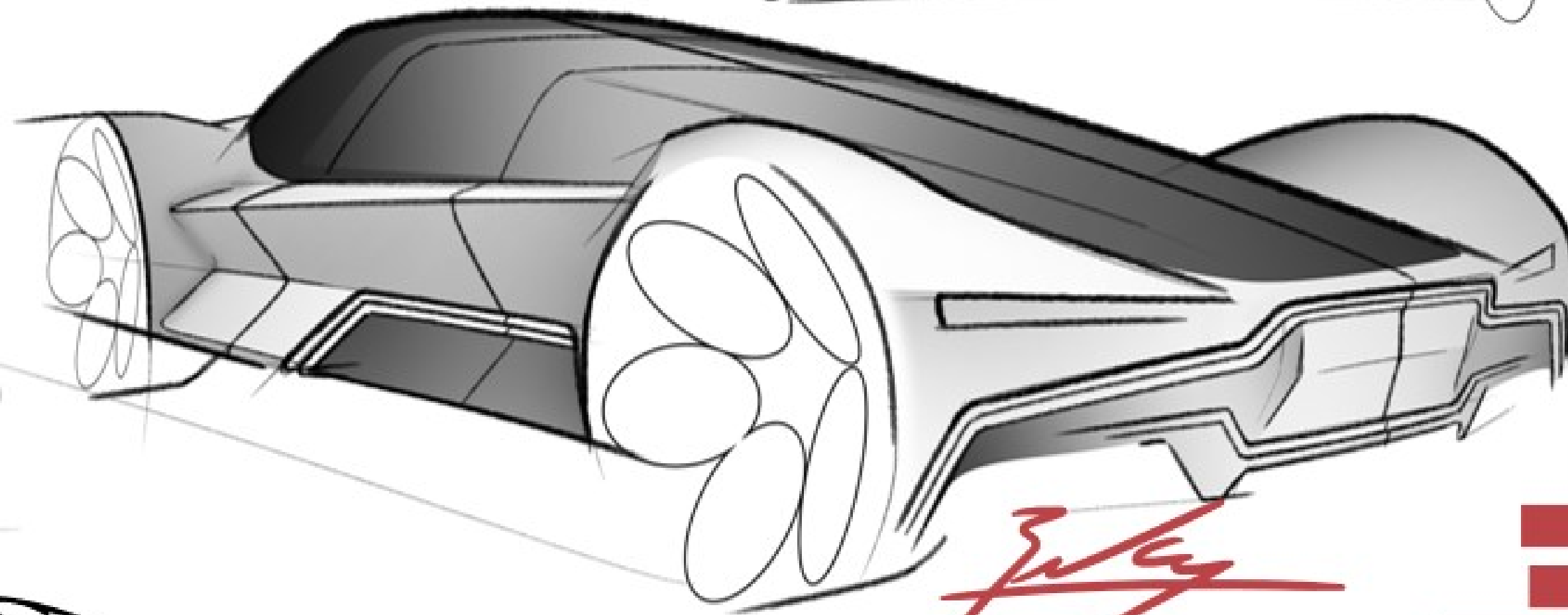
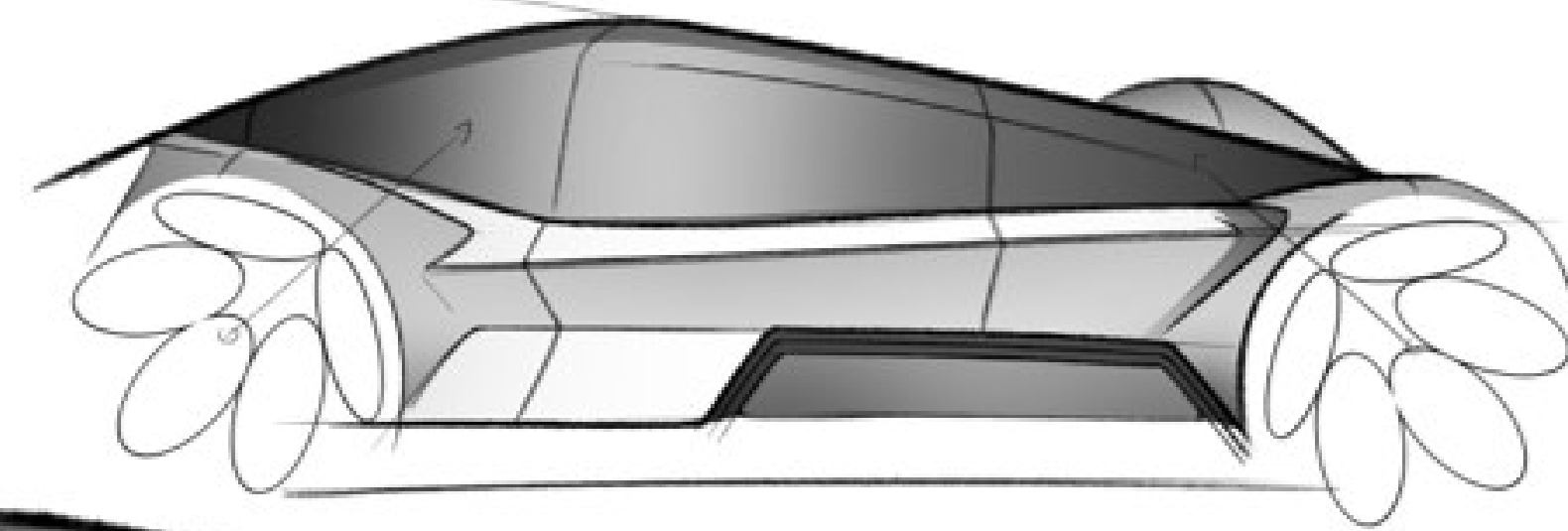
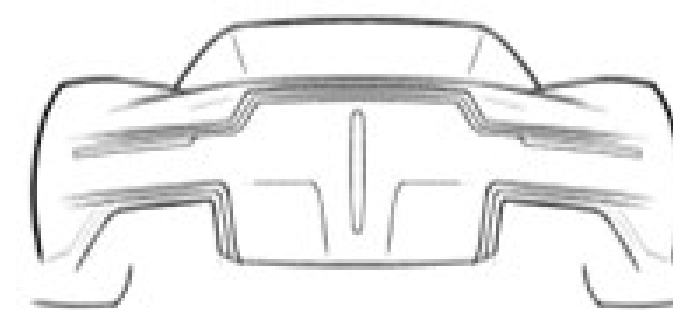
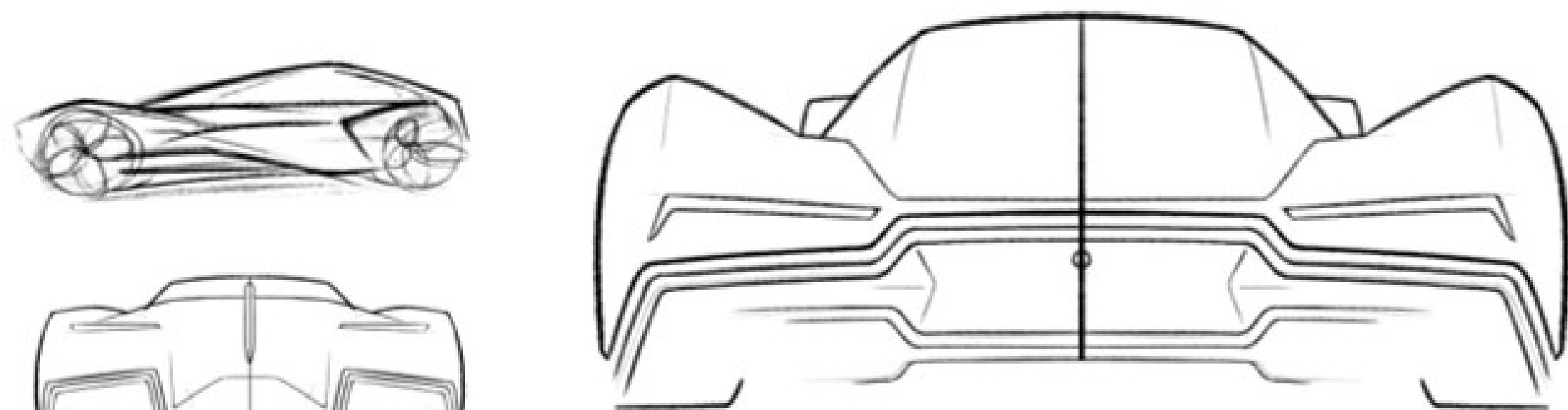
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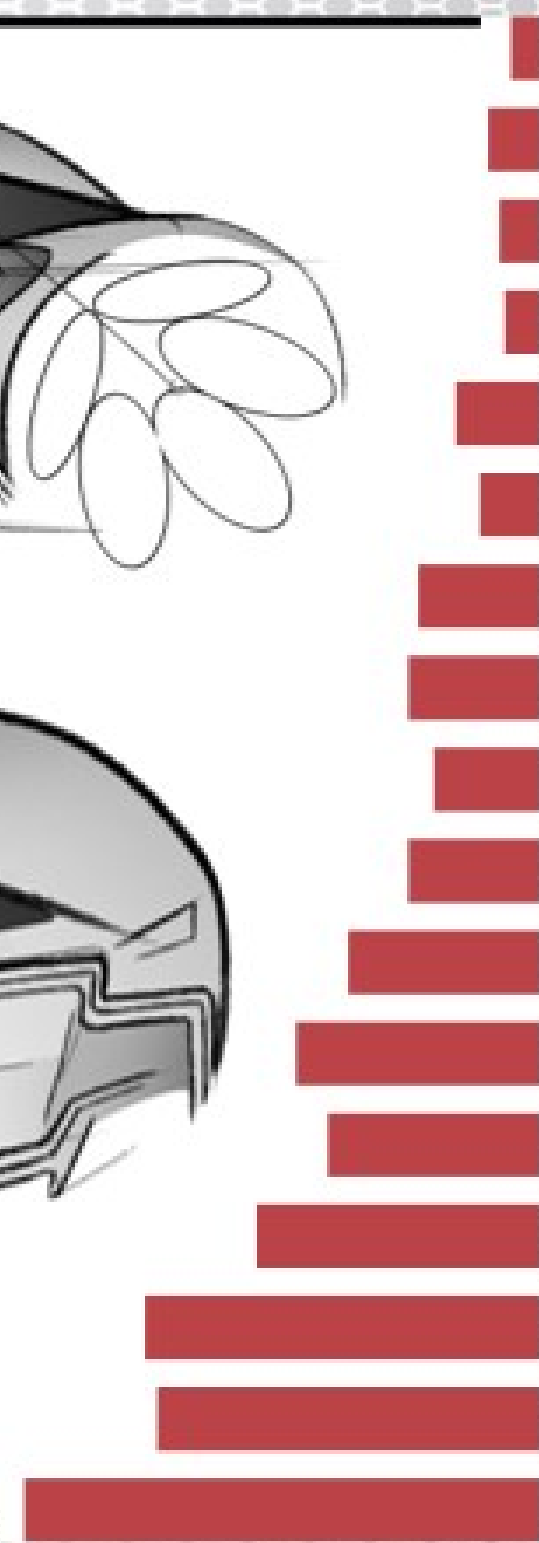
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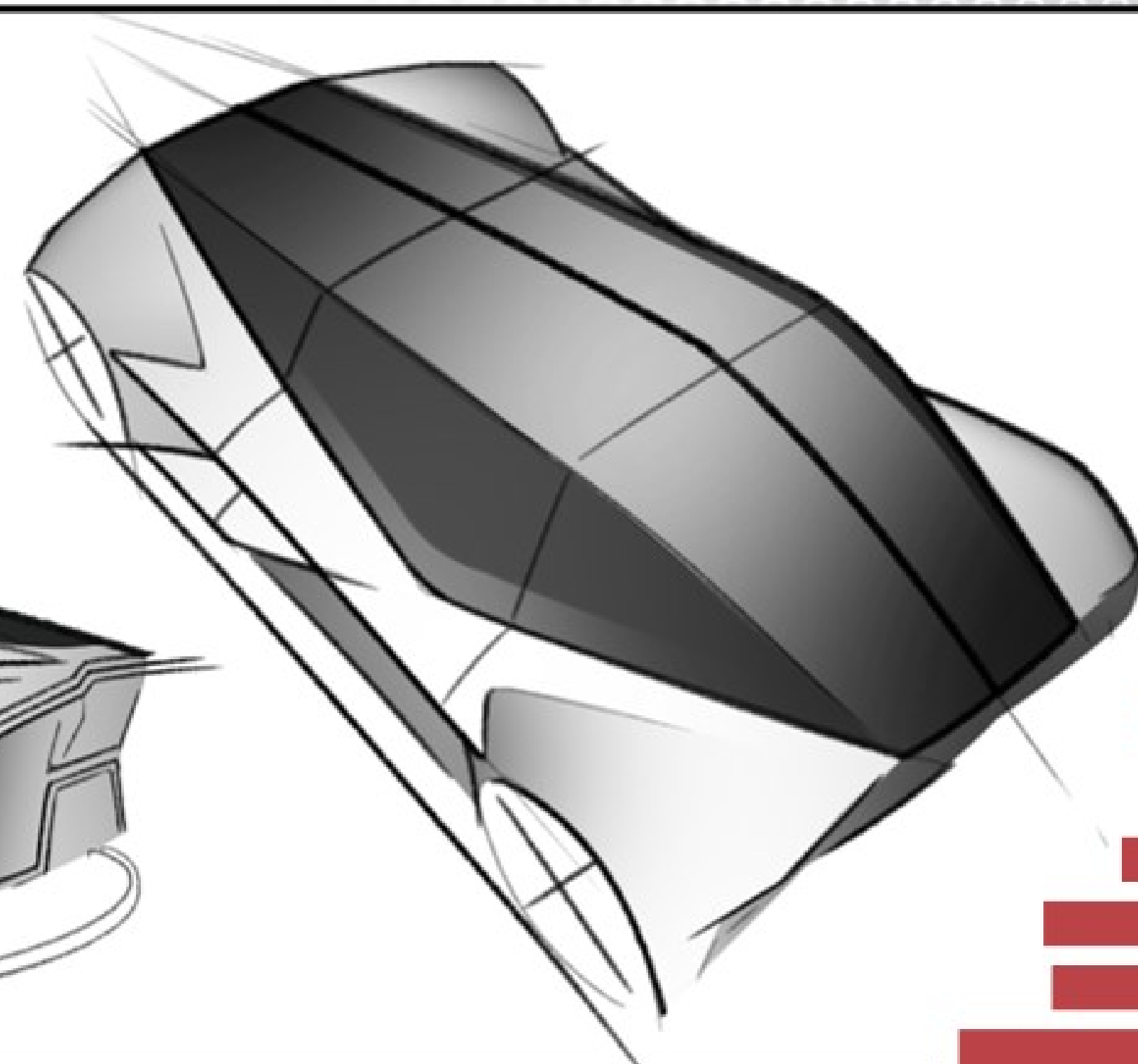
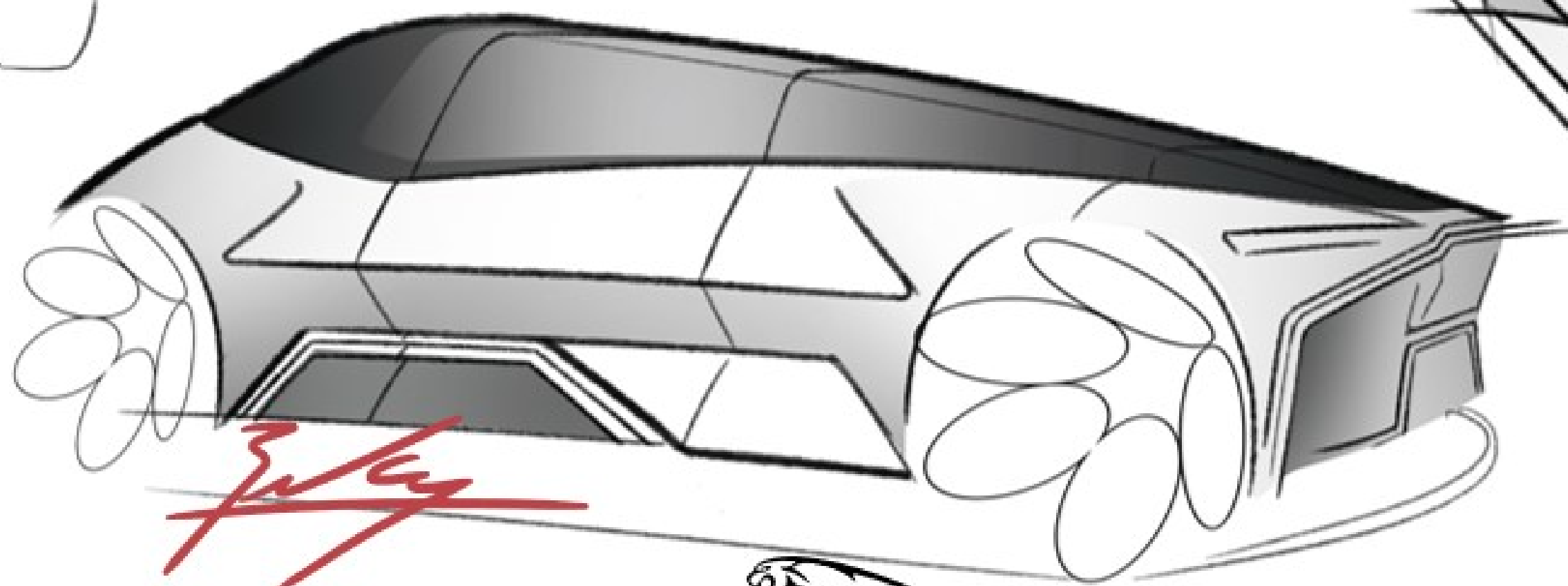
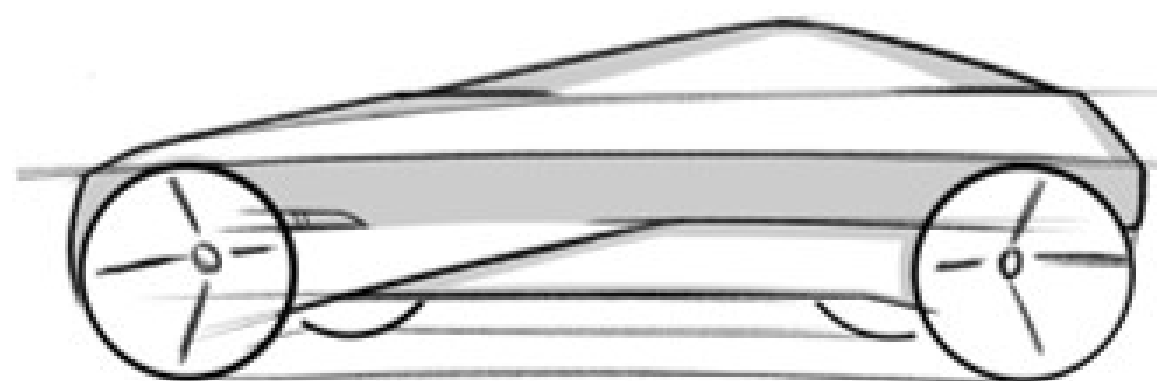
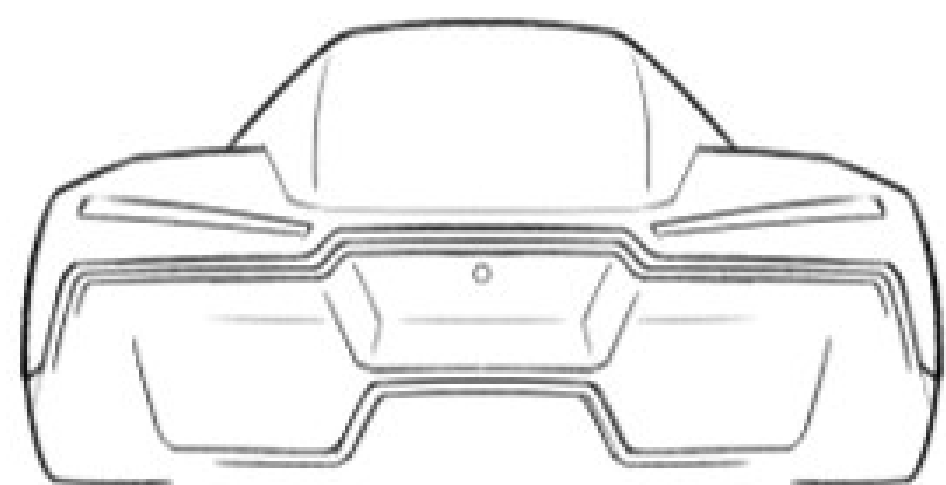
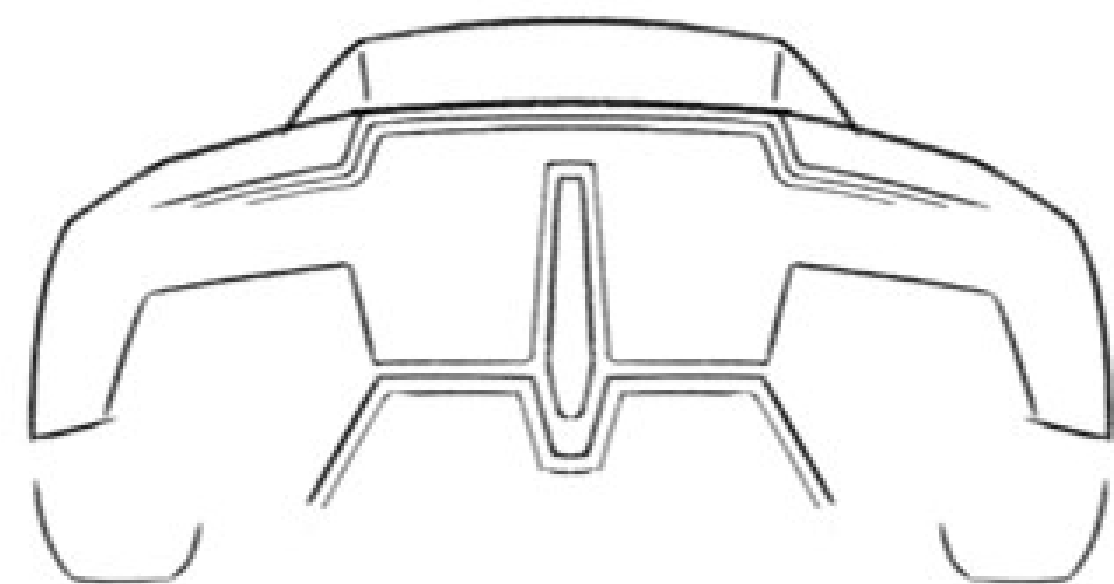
BENJAMIN J KINGHGAM

Proposals

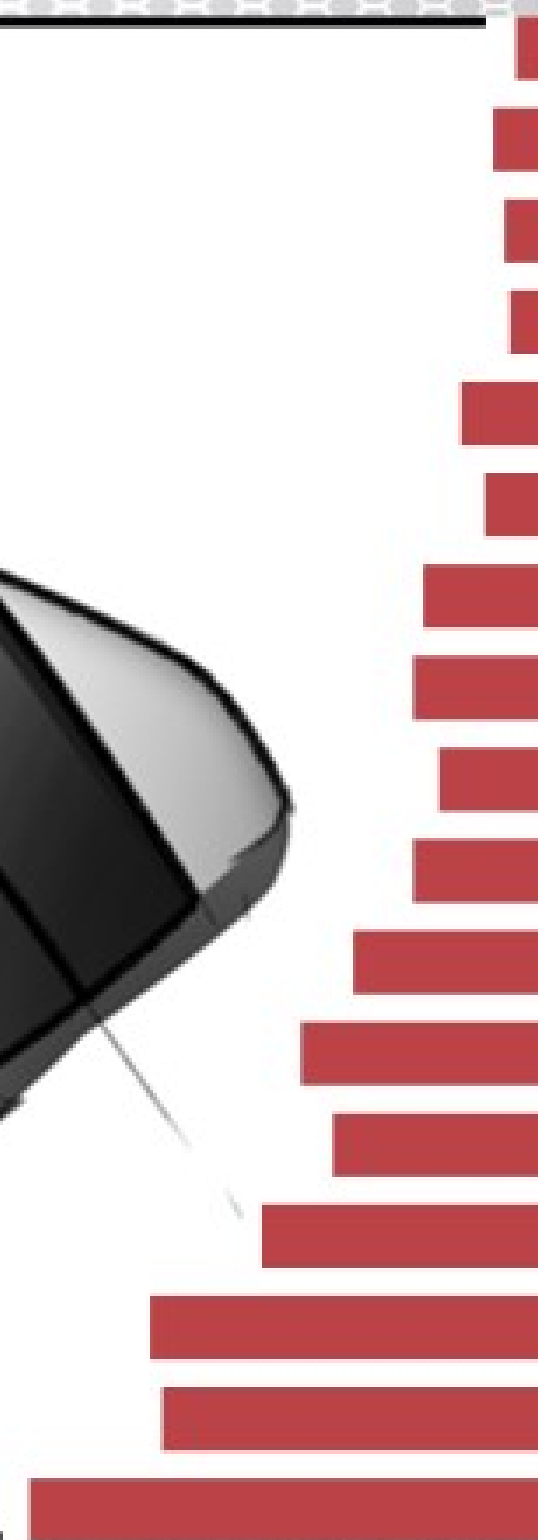


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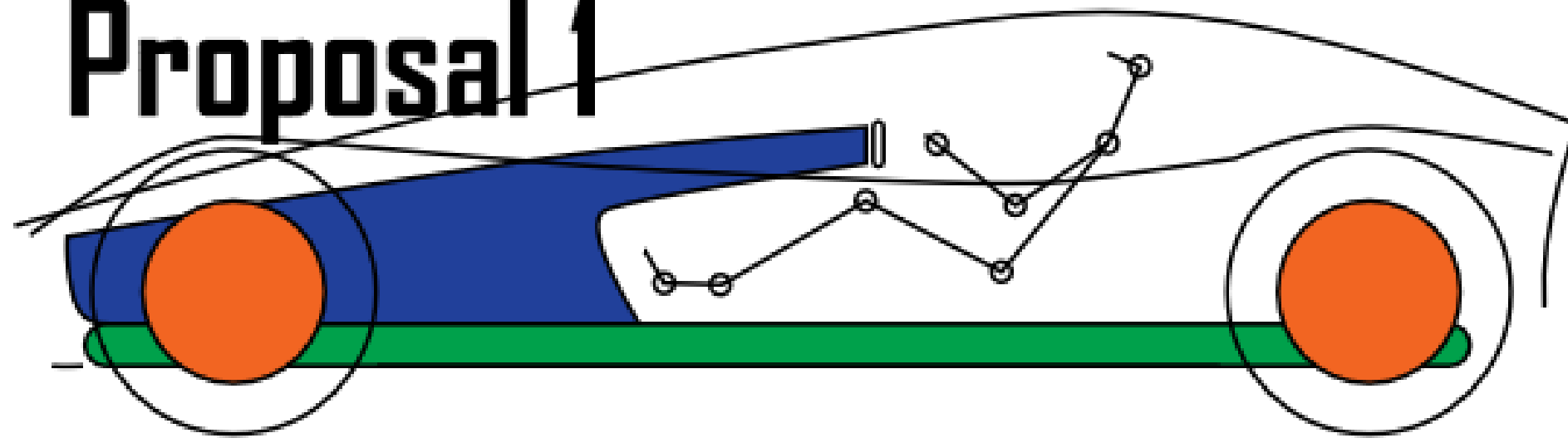




PROPOSAL 3

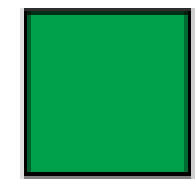
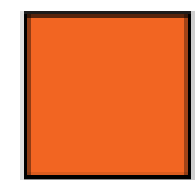
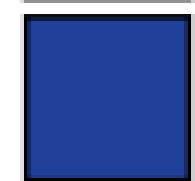


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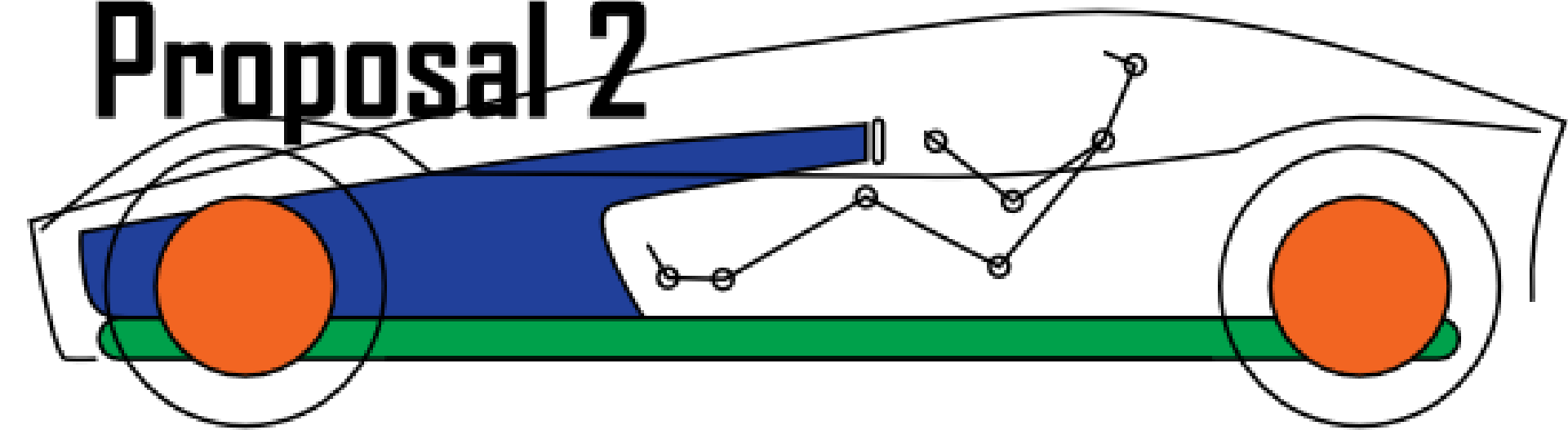


1,222cm

3,295cm

**Battery****Inner wheel motor and brakes****Optional steering module**

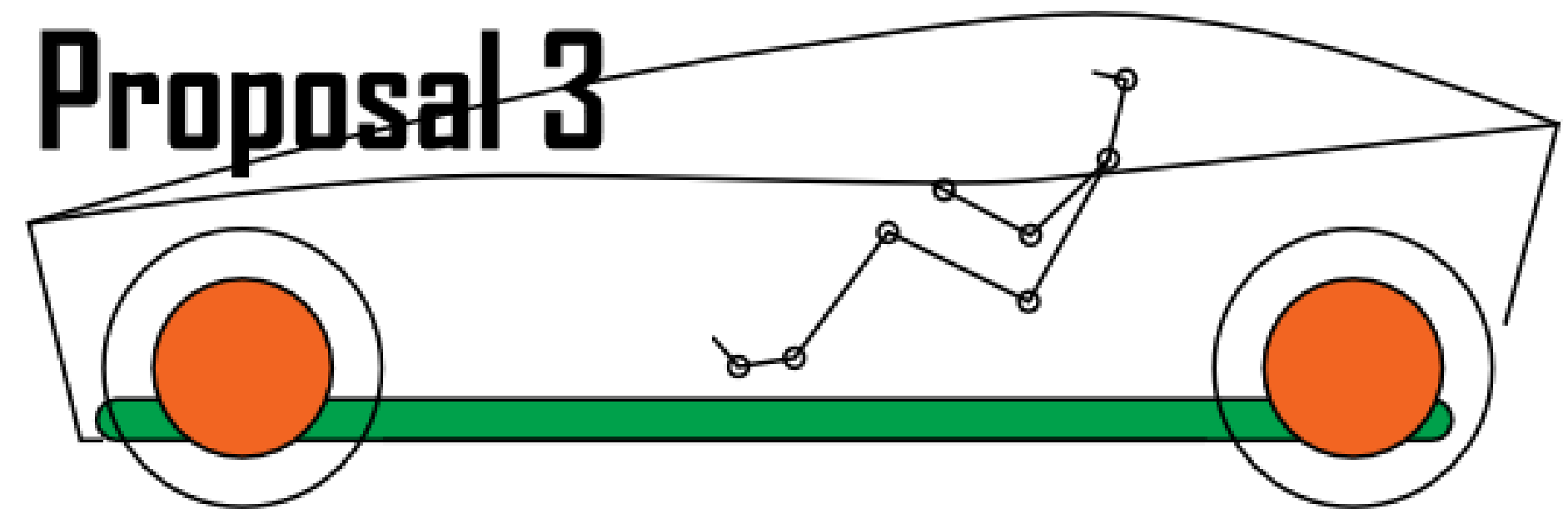
Proposal 2



1,222cm

3,295cm

Proposal 3



1,461cm

3,295cm

Packaging



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References

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