Alita: Battle Angel
VFX and techniques breakdown
The main character Alita

Based on manga by Yukito Kishiro

Big eyes

Big head

Robotic body

Not real :(
Scenes that impressed me
The Uncanny Valley Curve

- **Human Likeness**
  - Industrial Robot
  - Humanoid Robot
  - Bunraku Puppet
  - Robotic Prosthetic Hand
  - Zombie
  - Healthy Person

- **Affinity**
  - Uncanny Valley
Photorealism
The orange scene

https://www.youtube.com/watch?v=GeLJK_nik3Y
They look similar
Digital Rosa Salazar double
How was Alita created? (Face)
FACS rig

Facial Action Coding System
Side-by-Side: Transformation to Alita
Why are there black dots?
The skin
The eyes

The eyes are a window to the soul
One eye has 8.5 million polygons for one iris
Hair
Alitas robotic bodies

Really good modelling :)

[Images of robotic bodies and models]
Some more pictures
Getting the body motion
Bar fighting scene
Real face, CGI body
3D face
Simulations
Simulations
This guy
VFX
Simulation
Hand animated
Fighting without getting hurt
But sometimes...
Iron city
Iron city
Iron city
Iron city

Real set + CGI

Practical FX carry a lot of information
Iron city
The water scene
What about the costume and electronics?
What about the costume and electronics?
Another actress
Inside the ship
Inside the ship
Extra details
Extra details
The rocket pickaxe
Motorball scene
Motorball scene

Mixed CGI With Real Live Stunts
Unrendered motorball
It is all CGI
Thank you!

Questions?

https://www.youtube.com/watch?v=IMlkE5kWBxU
https://www.youtube.com/watch?v=e-e88lEyQo
https://www.youtube.com/watch?v=IObiQvexRFo
https://www.youtube.com/watch?v=KM7W0_5EivA
https://www.youtube.com/watch?v=ETs8B2axTcw&t=143s
https://www.youtube.com/watch?v=IMlkE5kWBxU
https://www.youtube.com/watch?v=timN6rZJPDw&t=84s
https://www.youtube.com/watch?v=RU0n2w8LbOY
https://www.youtube.com/watch?v=GNDVFDP7WZM
https://www.youtube.com/watch?v=iQRpi-2-fMA