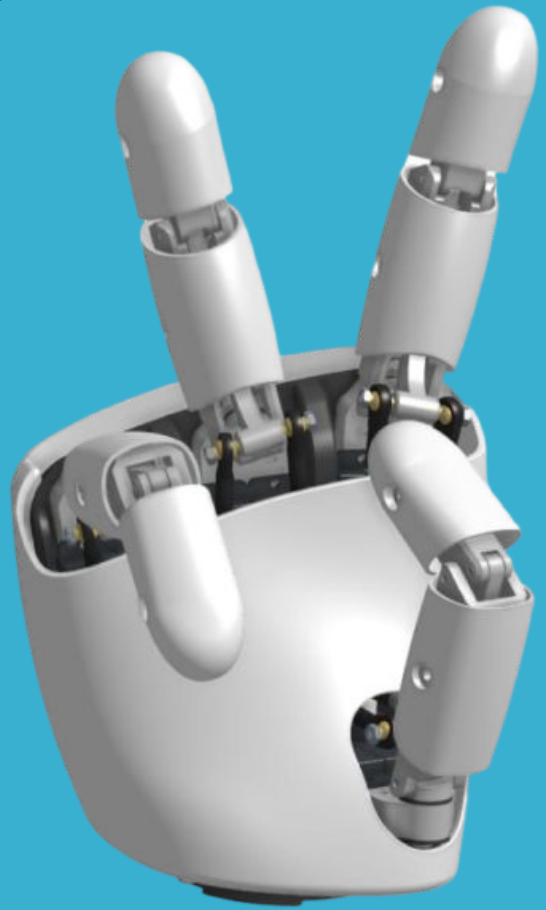
POLLEN ROBOTICS

Amazing Hand

4 fingers
8 dofs
3D printable
Open source

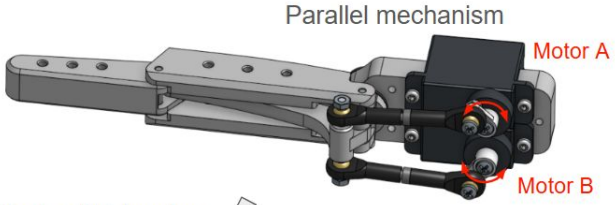
Pollen Robotics SAS
Bordeaux, France

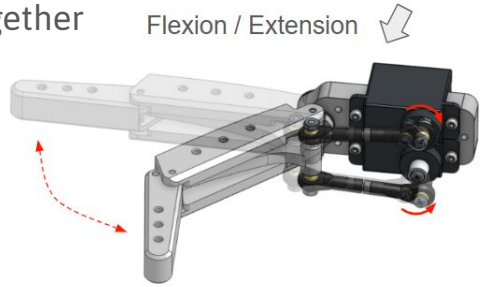


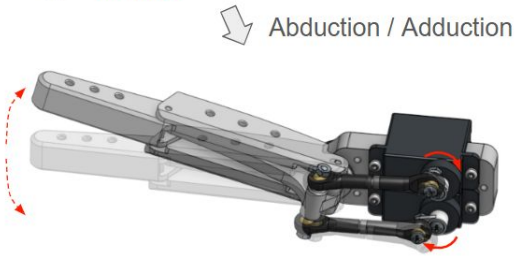
Amazing Hand

Finger mechanism

- 2 phalanxes finger
- 2 motors per finger acting in parallel
- Flexion / Extension & Abduction / Adduction
- Mechanical link to fold 2 phalanxes together
- Ball joint connecting rods
- Soft shells covering phalanxes
- 3D printable

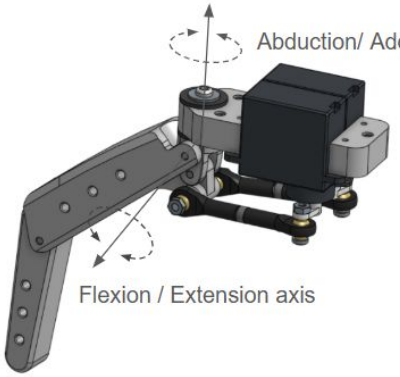


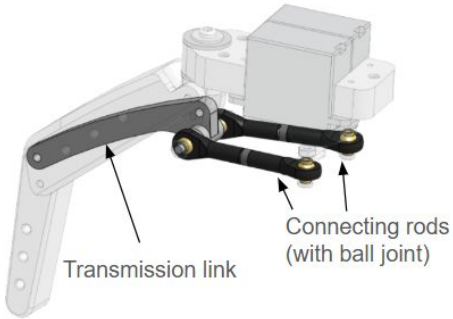


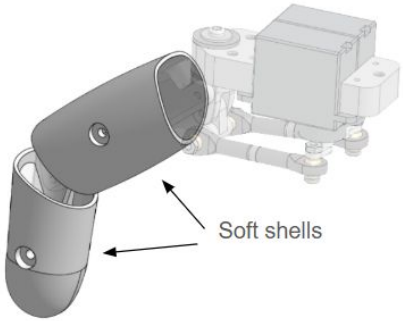


=> Flexion / Extension occurs when motors acting in the same way

=> Abduction / Adduction occurs when motors acting in opposite way







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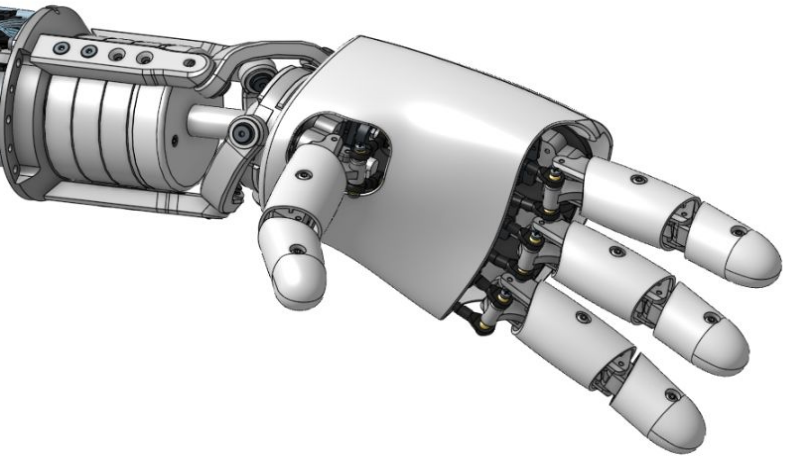
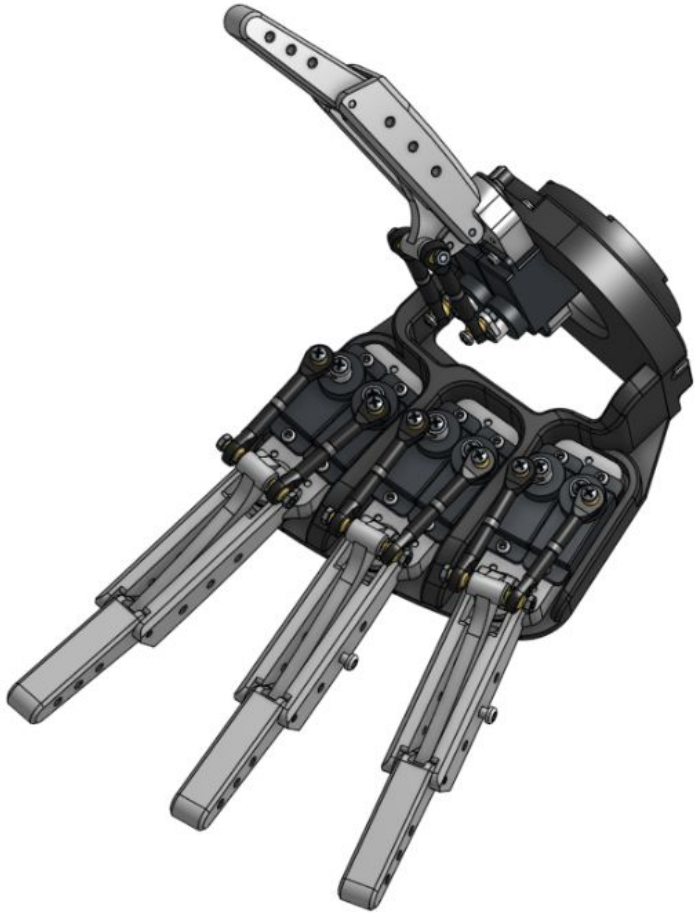
Hand design

- 4 identical fingers + custom plastic parts
- Thumb opposable with Index finger
- Soft palm (same material as finger soft shell)
- Wrist interface suitable for Reachy2





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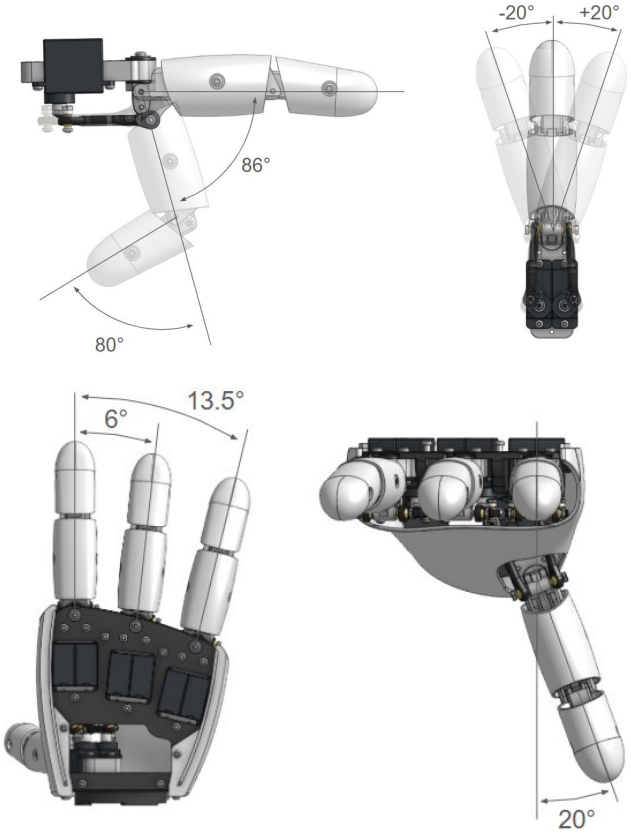
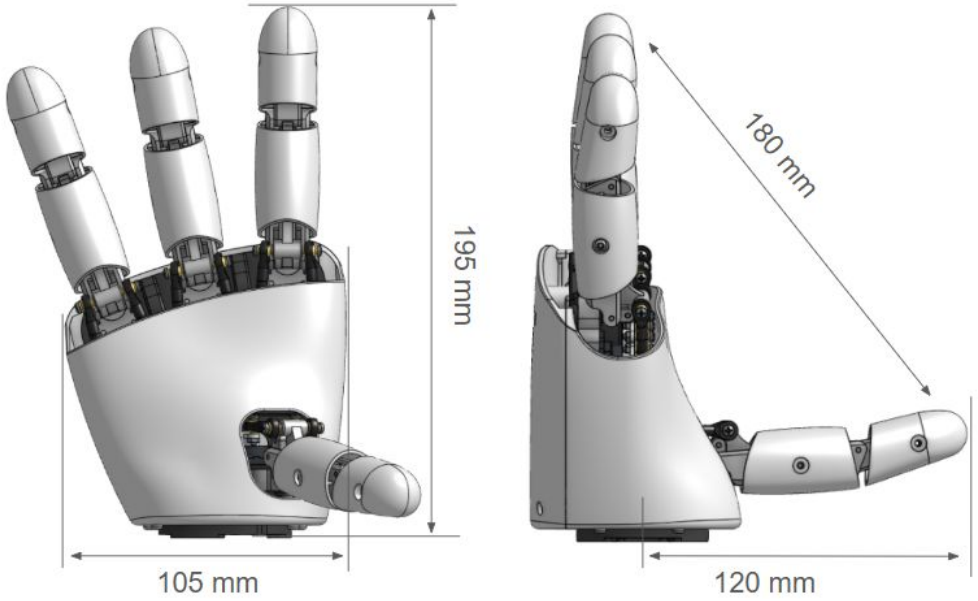
Technical details





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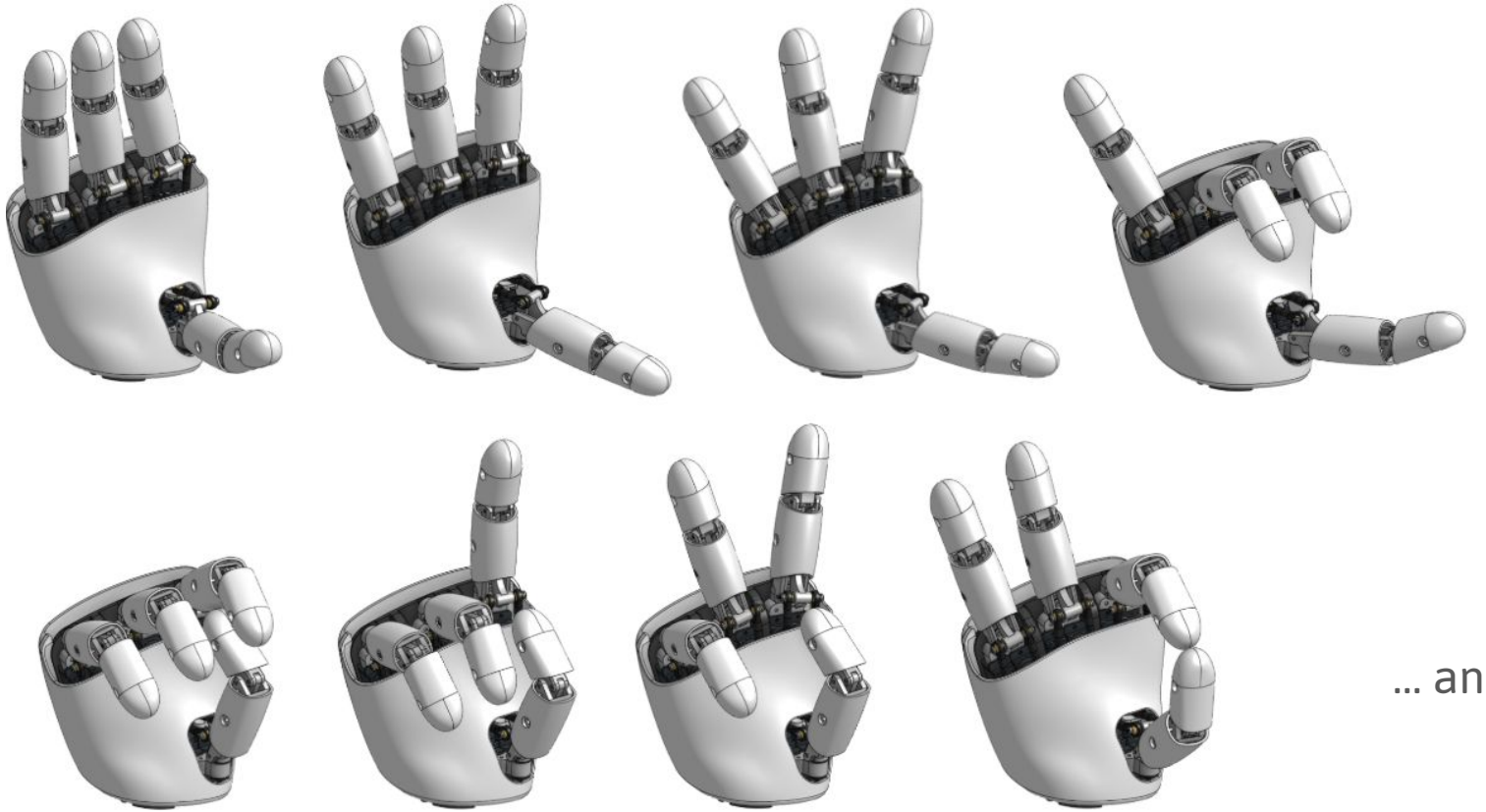
Some of possible patterns



... and others

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Specifications

- x8 smart actuators (feetech SCS0009)
- DC Supply 5V / Max current 3A
- Weight : 400g
- Up to 1Kg payload
- 3D Printed suitable
- Fully open source (will be soon on github)
- Bom cost <200€ (assembly 5 - 6 hours)

It will be easy to :

- Add 5th finger (but will increase overall width)
- Size differently each finger
- Change position of fingers
- Add fingertip sensor (depends of which sensor obviously)
- Change wrist interface