

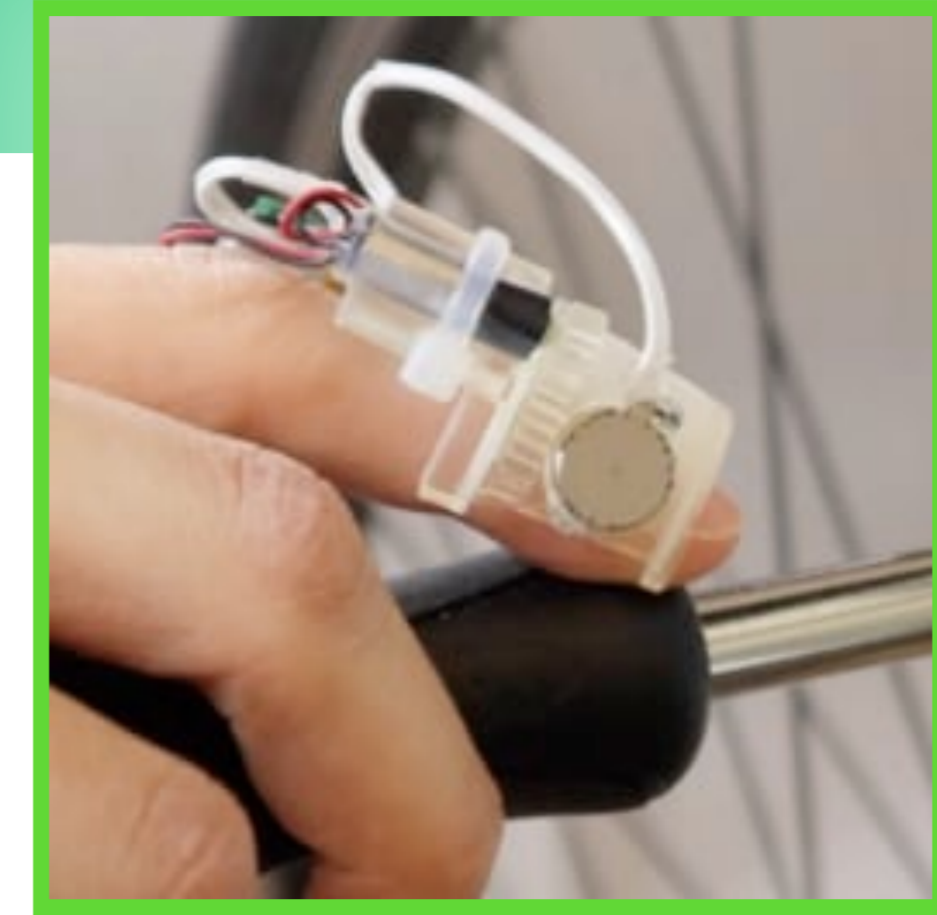
# enabling haptic experiences *anywhere, anytime*

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**motivation**  
as personal computing evolves towards mobile, why are haptic devices falling behind?



**harvest for haptics**  
UIST '22  
honorable mention



**touch&fold**  
CHI '21  
honorable mention

**1 untethered**

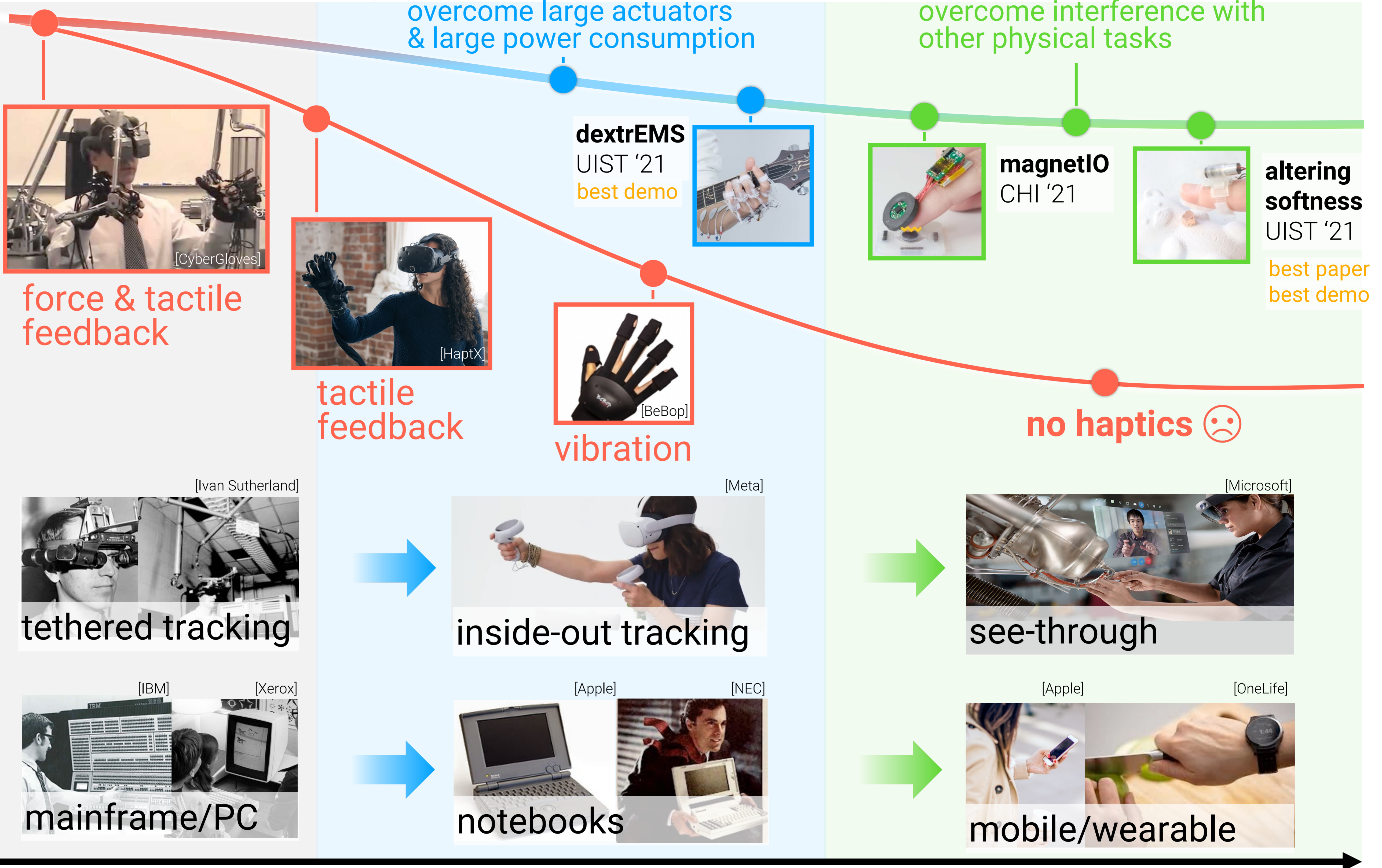
overcome large actuators & large power consumption

**2 non-obstructive**

overcome interference with other physical tasks

**haptic fidelity**

immersive



**virtual/augmented reality (VR/AR)**

**personal computing**

*constrained to space*

*anywhere, anytime*

**selected publications**

**1** Prolonging VR haptic experiences by harvesting kinetic energy from the user  
Teng, et al. UIST '22, honorable mention award

**2** touch&fold: a foldable haptic actuator for rendering touch in mixed reality  
Teng, et al. CHI '21, honorable mention award

when haptic device is **low on power**, VR renders **resistive force**, while the user **charges** the device

when haptic device is **charged**, VR can renders **more on-demand haptic feedback**

see more:  
[tengshanyuan.info](http://tengshanyuan.info)

