



Assignment 7.5
Ashley Kennedy
University of Advancing
Technology
MKT220: Final Project
Professor Valenzuela
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SONICSENSE

Listening Skills Bring Human-Like Touch To Robots.



"Robots today mostly rely on vision to interpret the world. We wanted to create a solution that could work with complex and diverse objects found on a daily basis, giving robots a much richer ability to 'feel' and understand the world."

Jiaxun Liu

MEMS Ph.D. student at Duke University

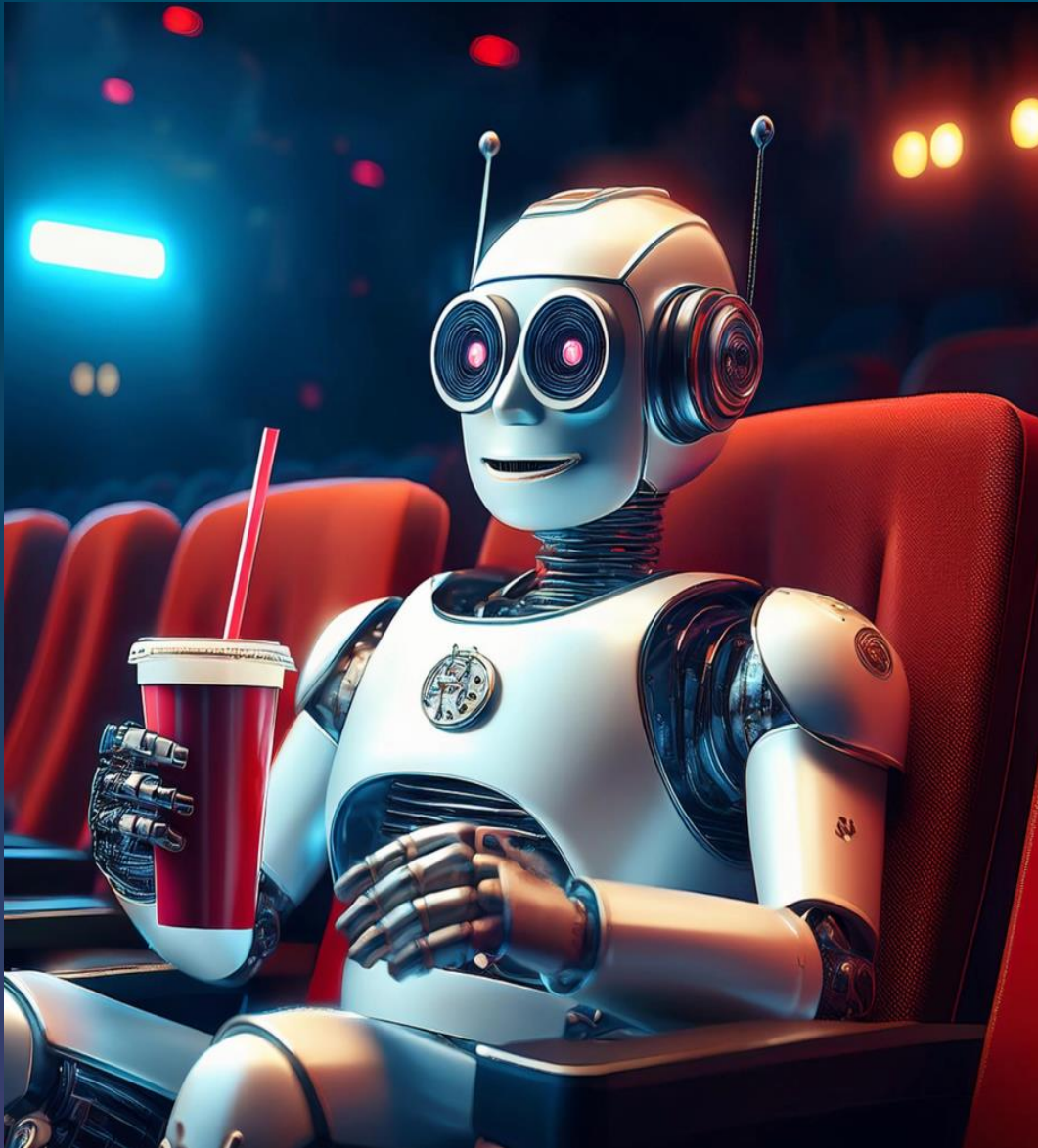


"SonicSense gives robots a new way to hear and feel, much like humans, which can transform how current robots perceive and interact with objects."

Boyuan Chen

Assistant Professor of Mechanical Engineering & Materials Science and Computer Science at Duke University





PROBLEM

Imagine this: You're at the movie theater, enjoying a new release, you're wondering if now is a good time to refill your drink. You go to reach for your drink, you shake it, you don't feel anything, it shouldn't be completely empty, there should at least be some ice in it. Weird, right? Well not weird, if YOU ARE A ROBOT.

Robots can't feel the way humans do. They rely solely on visuals to interpret the world. This Robot would have had to open the lid and look inside to determine if a refill was needed.

Duke University has introduced SonicSense, a means for robots to feel through vibrations.

Note. Image generated with prompt "robot in movie theater sitting down drinking a soda" by Adobe, Express, 2024 (<https://new.express.adobe.com/id/urn:aaid:sc:VA6C2:4871f3a8-aa05-4b61-aa58-591a432a3432?category=media&tab=all>)

PRODUCT OVERVIEW

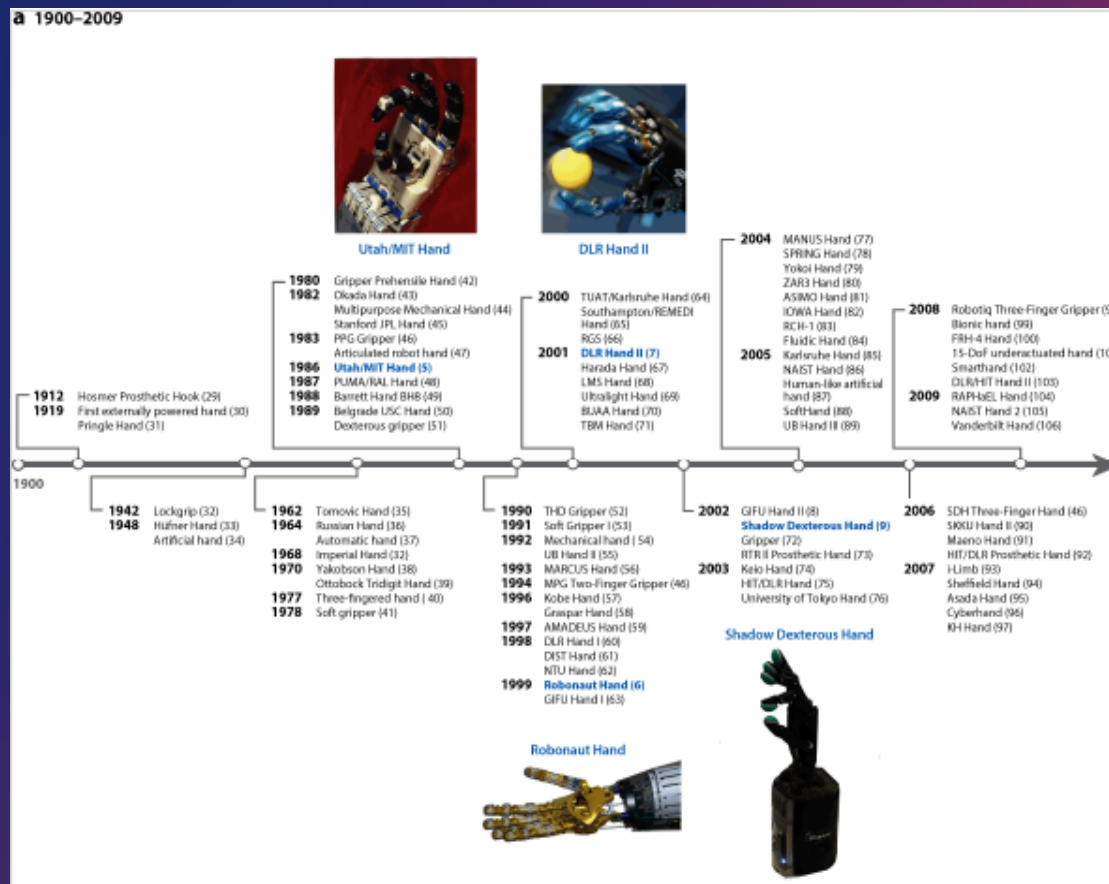
SONICSENSE



- SonicSense will allow robots to feel materials through vibrations.
- While previous technology has tried to achieve this, SonicSense leads the way while utilizing four fingers vs one.
- This product is set to enhance the robotic industry positively all while costing just \$200 to manufacture.

History of robotic hands

The history of robotic hands starts off in the early 1900 with the “Homer Esthetic Hook”



Copyright Public Records System

There are thousands of patents available when searching for Robotic Hands.

The first patent being in 1978 and the most recent in 2024

The Preservation of the sacred fire of liberty ... is entrusted to the...

Type of Work: Visual Material

Registration Number / Date: RE0000011011 / 1978-12-29

Renewal registration for: K00000028856 / 1950-11-25

Title: The Preservation of the sacred fire of liberty ... is entrusted to the hands of the American people--G. Washington. By William C. Griffith.

Copyright Claimant: Brown & Bigelow (PWH)

Variant title: The Preservation of the sacred fire of liberty ... is entrusted to the hands of the American people--G. Washington.

Names: [Griffith, William C.](#)

[Brown & Bigelow](#)

VL235 Rock The Discotheque is part of Velocity.

Relevance: ■

Type of Work: Sound Recording and Music

Registration Number / Date: SR0001007154 / 2024-07-23

Application Title: VL235 Rock The Discotheque is part of Velocity.

Title: VL235 Rock The Discotheque is part of Velocity.

Description: Electronic file (eService)

Copyright Claimant: Universal Music-MGB NALLC d/b/a Universal Production Music. Address: 2105 Colorado Ave., Santa Monica, CA, 90404, United States.

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Rights and Permissions: Universal Music-MGB NALLC d/b/a Universal Production Music, 2105 Colorado Ave., Santa Monica, CA, 90404, United States, (310) 865-4451, (800) 454-5537, blaine.mcgobern@umusic.com

Copyright Note: Basis for Registration: Collective work.

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Names: [Universal Music-MGB NALLC](#)

[Universal Production Music](#)

WHAT'S NEXT?



Note. Image generated with prompt “robotic fingers on hand” by Adobe, Express, 2024
(<https://new.express.adobe.com/id/urn:aaid:sc:VA6C2:164df1cd-2a87-4e73-a2b6-a67ec75eed7d?category=media&tab=all>)



CONCLUSION

SONICSENSE

THESE ADVACMENTS WILL BRING NEW OPPURTUNITIES WHILE UTILIZING ROBOTS.

WITH THE ABILITY TO FEEL COMES THE ABILITY TO MULTIPURPOSE AND ACHIEVE MORE TASKS AT ONCE

SONICSENSE WILL ENHANCE ACCURACY OF ROBOTIC HANDS

