



***Hear what you want. Hear what matters.***

# Superhuman Capabilities





# AAVAA's Solution

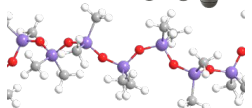
We decode **brain and bio-signals** to understand a user's **attention and subtle commands**.



**Design**



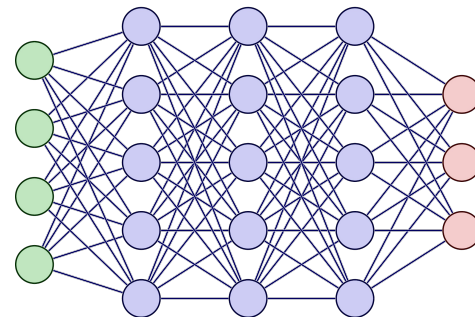
**Hardware**



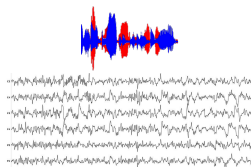
**Bio-Sensors**

# AAVAA's End-to-End Solution

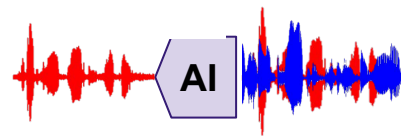
We adapt our solution to any headworn's device.



**Neural Decoders**

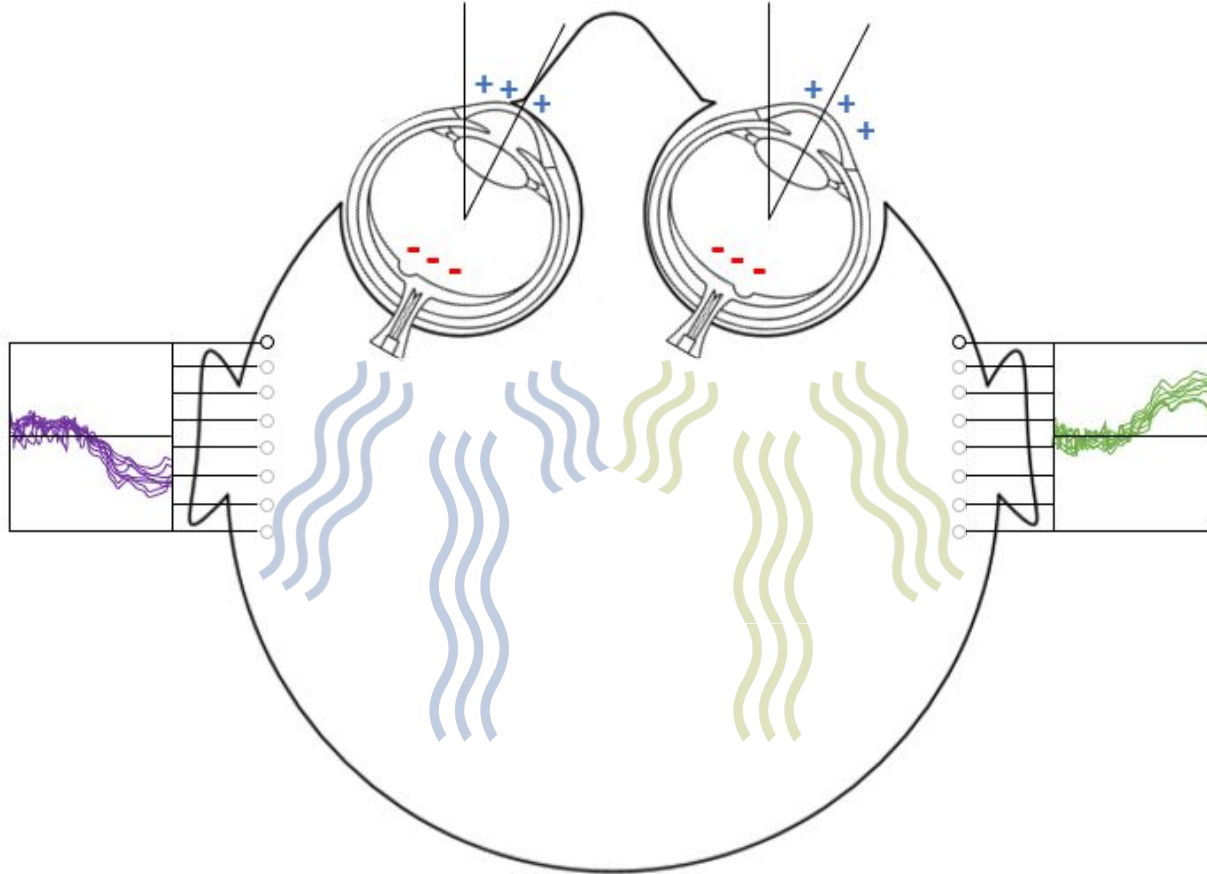


**Sound, Brain,  
and Bio-Signals**



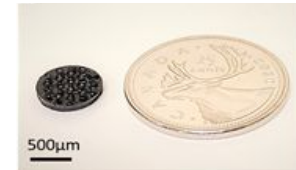
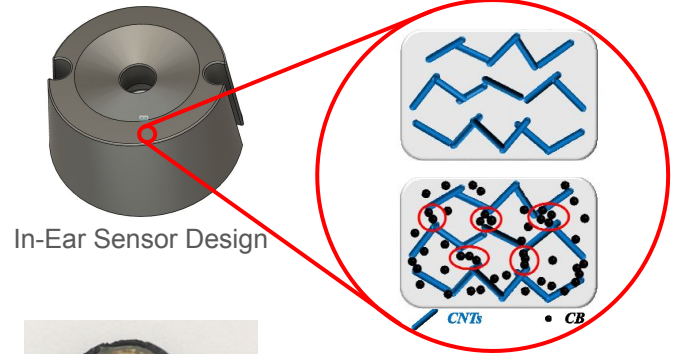
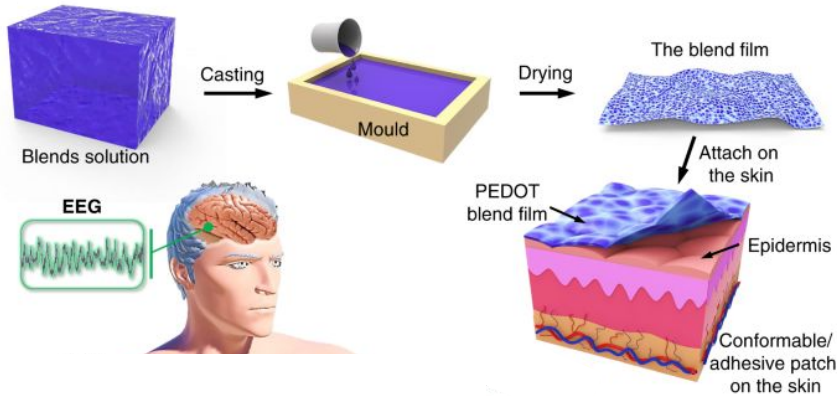
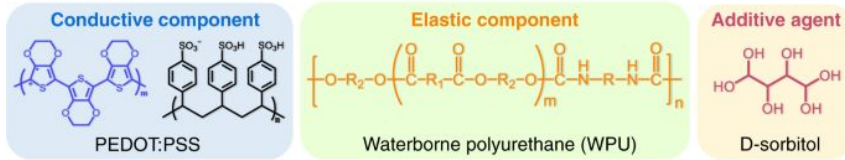
**Sound Processing**

# Eye Movement Detection



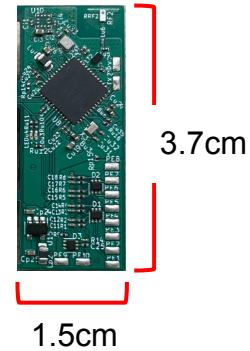
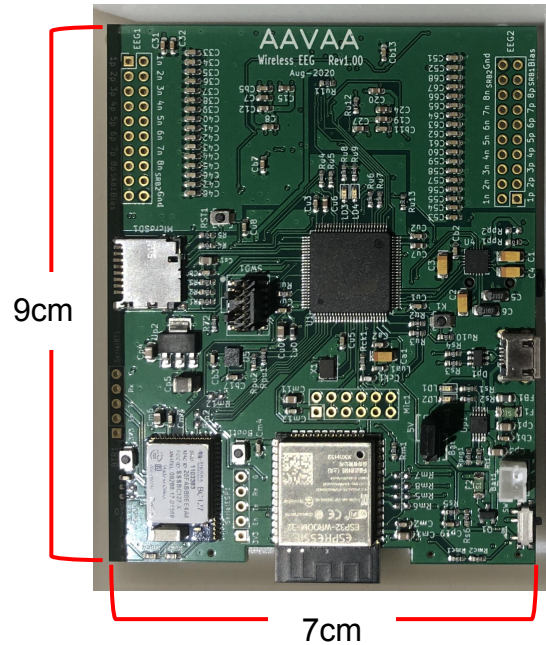
# Bio-Sensors

Our Novel Biosensor Materials Increase Signal to Noise Ratio and Accuracy



As small as 0.5mm

# Hardware: Specs

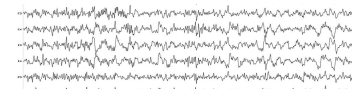


# Design: What Is Needed for Integration?

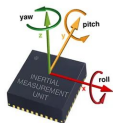




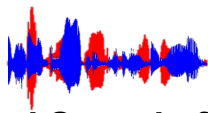
# AAVAA Neural Decoders



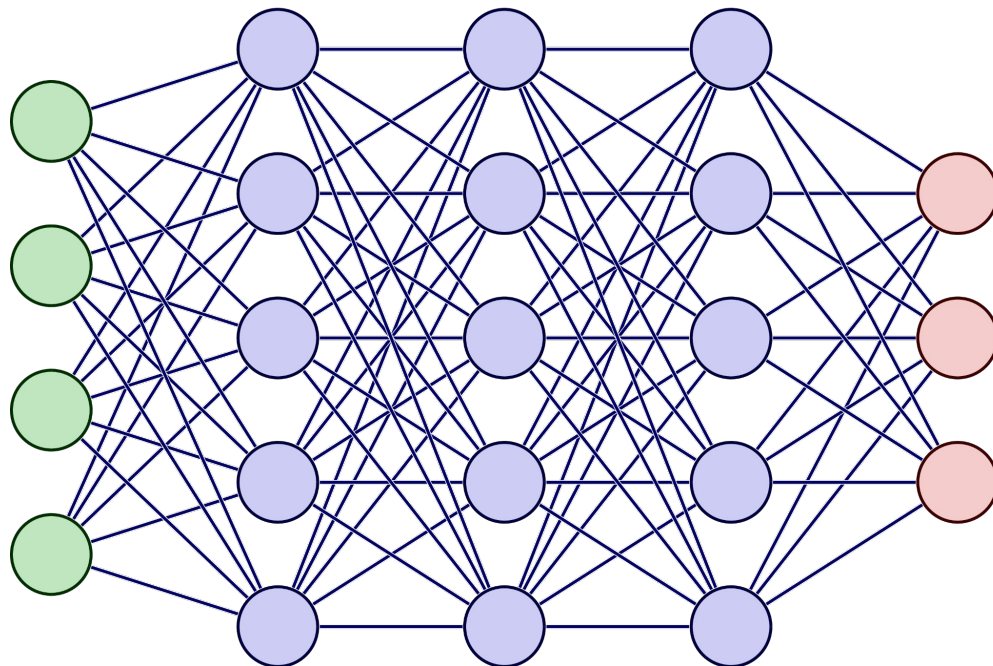
**Brain & Bio-Signals**



**Inertial Signals**



**Mixed Sounds from the Environment**



**Attention Signals**



**Intent Signals**



**Separated Sound Sources**

# AAVAA

## Patented Platform Embedded into Headworn Device

Neural  
Activity  
Decoding

Brain  
Attention



Eye Gaze  
& Blinks



Motion  
Sensor  
Analytics

Head  
Orientation

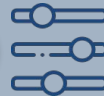


AI-Driven  
Audio  
Processing

Scene  
Classification



Sound Source  
Separation





Score: 1



# AAVAA-Enabled Capabilities



**Enhance the sound you  
are listening to**



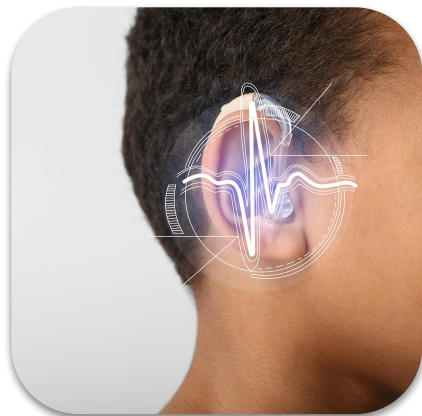
**Look in the direction  
you want to go**



**Scroll with your gaze  
and select by blinking**

# Additional Applications

By understanding a user's attention and intent, we can solve many diverse problems.



**Brain, Mental, and  
Physical Health  
from In the Ear**



**Redirect Attention  
to Improve Safety  
and Productivity**



**Respond to  
Attention, Emotion,  
Internal States, etc.**

# Interested Partners

## Hearing Enhancement



## Other Attention-Based Apps







# AAVAA Achievements



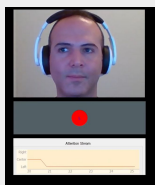
Exclusive patent license




Headphone prototypes



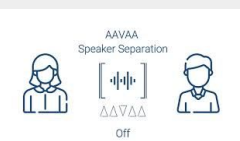
System patent



[Attention demo](#)




Interactivity patent

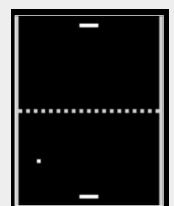


AAVAA Speaker Separation  
[Waveform icon]  $\Delta\Delta\Delta\Delta$   
Off

[Speech enhancement demo](#)



In-ear brain sensors



["NeuroPong" demos](#)

2019 2020 2021 2022



TANDEMLAUNCH  
\$800k investment



Mitacs  
\$120k grant



BEST STARTUP CANADA  
[Top Startup in 3 fields](#)



Emerging Entrepreneur



TED  
[TEDx talk](#)



Artemis III Accelerator Program



NSERC CRNSG  
\$1.5M grant as "National Challenge"



SAMSUNG  
Top 10/600 groups in accelerator



# The AAVAA Team



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**Naeem Komeilipoor**  
Chief Technology Officer



**Lex Schindler**  
Chief Operating Officer



**Farnood**  
AI Engineer



**Youness**  
AI Engineer



**Katerina**  
Neuroscientist



**Elaine**  
Neuroscience Intern



**Min**  
Hardware Engineer



**Pouya**  
Hardware Engineer



**Shideh**  
Material Scientist



**Ahmad**  
Material Scientist



**Shuyun**  
Material Scientist



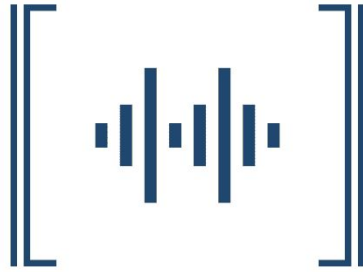
**Anan**  
Materials Researcher



**Alex**  
Materials RA



**Gaurang**  
Industrial Designer



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For more information, please visit: [www.AAVAA.com](http://www.AAVAA.com)

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