The future of connected hearing healthcare

Donald J Schum, PhD    Annette Mazevski, AuD/PhD

Why?
Connected Hearing Healthcare?
Components:

- Big Data
- Artificial Intelligence
- Wearables
- Machine Learning
- Deep Neural Nets
- System Integration
- Apps
- Telehealth

Topics

- Telehealth
- Big Data
- Cloud-based Signal Processing
- AI / Machine Learning / Deep Neural Nets
- Wearables / Hearables
- Brain “Integration”
- Telehealth
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- Wearables / Hearables
- Brain “Integration”
Big issue:
Does it enhance or detract from the relationship with the patient?

Topics
- Wearables / Hearables
- Telehealth
- Big Data
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- AI / Machine Learning / Deep Neural Nets
- Brain “Integration”
Big issue:
Which problems can be better solved?
 Topics

- Telehealth
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Cloud-based Signal Processing

“The Cloud”
Big issue:
What can the cloud help us do better?

Topics
- Telehealth
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Machine Learning Example:

No such thing as too much data!

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<th>Prediction</th>
<th>Better prediction</th>
<th>Even better prediction</th>
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Personalization +

Signal Processing
Deep Neural Net Example:

Natural Voice Separation & Tracking:
Fundamental Frequency
Harmonic Structure
Supra-segmentals
Visual Cues
Linguistics
Loudness
Location
Timbre
Rate
etc.
Deep Neural Net Example:
"eee" Produced by Four Different Talkers
Three Voices

Acoustic Analysis
Natural Language Analysis
Off-line versus Real Time

Big issue:
Better solutions?
Real-time computing power?
- Telehealth
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Scope of Practice

Big issue:
Value to *hearing care*?
Topics

- Telehealth
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- Wearables / Hearables
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Brain “Integration”
Big issue:
What can the brain tell you?
The future of connected hearing healthcare

D.Schum@Oticon.com  A.Mazevski@Oticon.com

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