Ultrasound-integrated pronunciation teaching and learning
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The Problem: Second language (L2) pronunciation is a key element of L2 learning, but it’s often hard to teach, there isn’t enough classroom time, and mapping from acoustics to articulation of difficult sounds can be challenging.

The eNunciate Project (enunciate.arts.ubc.ca): Creating multimodal online pronunciation learning resources featuring ultrasound overlay videos

Implementation: Used in Japanese and Linguistics courses

1. Double-simultaneous recording
2. Manual alignment (using Adobe Premiere)
4. Manual overlay (using Premiere)

Next Steps: Creating an interactive, real-time ultrasound-based tongue visualizer. Learners can see their own productions in overlay format, and future video production can be automated.

1. Double-simultaneous video collection
2. Algorithm automates steps 2 and 3 from above in real-time using OpenCV
3. Real-time overlay