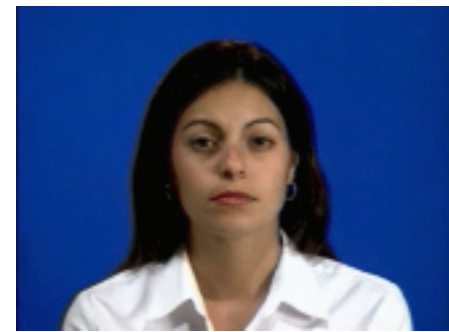
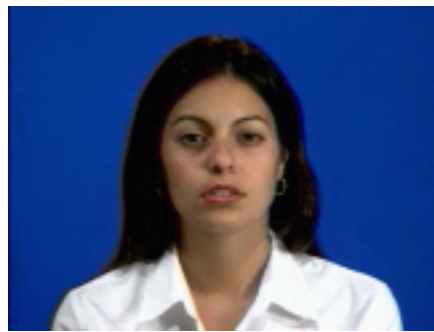
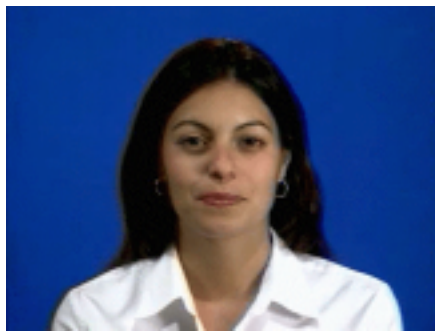




Project Overview

Two extensions of our text-to-visual-speech (TTVS) system:

- Learn facial dynamics and coarticulation
- morphing of 3D models of faces to output a 3D model of a speaking face



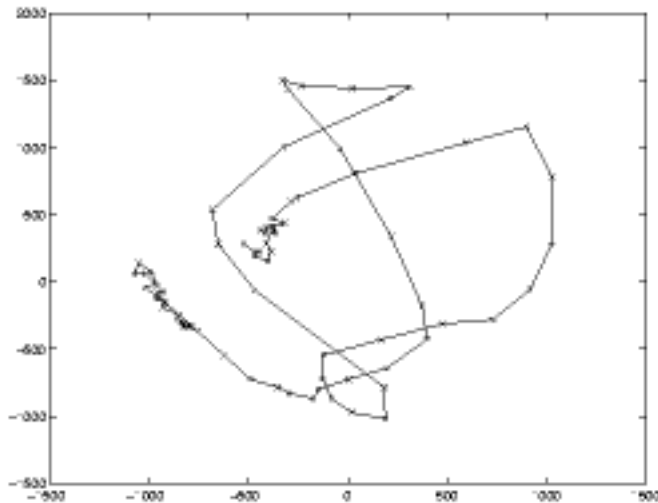
MIT9904-15: Adaptive Man-Machine Interfaces

Tomaso Poggio

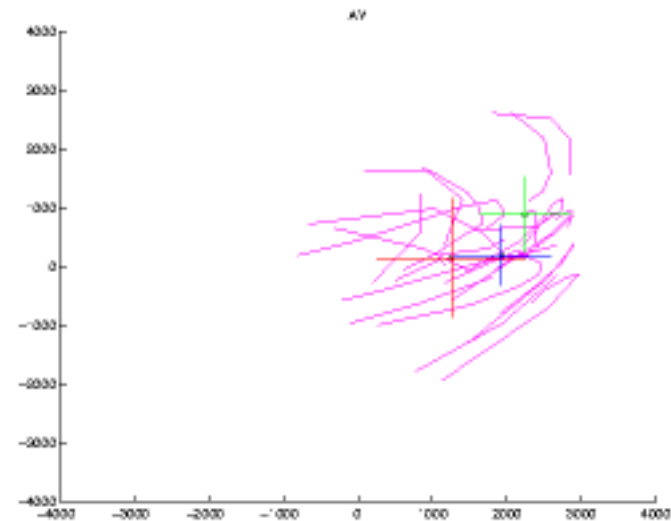


Progress Through June 2001

- Obtained low-dimensional for data in our corpus.



- Trained 3-state left-to-right HMMs for each phoneme



MIT9904-15: Adaptive Man-Machine Interfaces

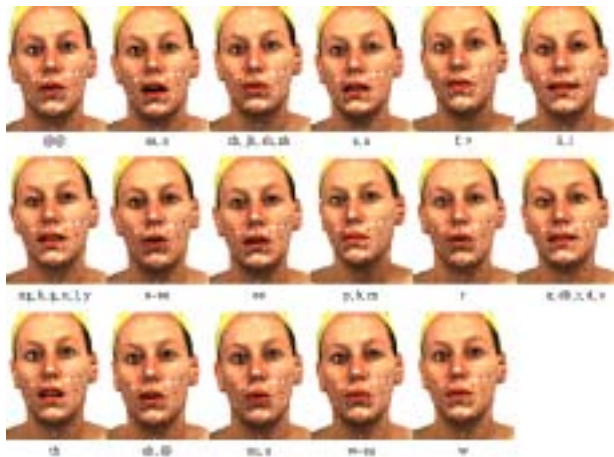
Tomaso Poggio



Progress Through June 2001

Neutral face shape was reconstructed from a single image, and animation transferred to new face.

3D face scans were collected.



[Click for animation](#)



[Click for animation](#)



Research Plan for the Next Six Months

Develop further approach to deal with the dynamics & coarticulation problem using the trained HMMs.

Explore a new approach to synthesize 3D models of faces using a realtime 3D scanner.

Incorporate higher-level communication mechanisms into our talking facial model.

Assess the realism of the talking face using psychophysical experiments.

Extend our approach using morphable model from images to audio.