

Digital Image Processing for Facial Morphing Application

~2 | Years of relationship

Business Problems

Client seeks to assist clinicians and patients with remote clinical trial consultations to detect and measure wrinkles and view age progression images.

CitiusTech developed an algorithm that localizes subtle discontinuities and cracks in skin texture caused by wrinkles across various skin surface textures and skin tones.

We adopt a deterministic approach, incorporating prior knowledge about wrinkles and other factors to generate a progression timeline with significant accuracy.

Solutions & Value Delivered

- ▶ CitiusTech's team has engaged with both domain and machine learning SMEs, providing insights.

Continued project objectives include:

- ▶ Design functional flow, ML algorithmic flow and technical architecture
- ▶ Build a deterministic benchmarked algorithm to localize subtle discontinuities in skin texture
- ▶ Create a prediction algorithm that has been trained on extensive patient identity preservation and age classification
- ▶ Evaluate existing model against industry standard fairness metrics to avoid bias
- ▶ Baseline ML models, open-source libraries and public data sets



70%
*accuracy in
Wrinkle
Detection*

60%
*intersection
over Union*

OpenCV, VGG16
*and custom-built models
leveraged*