

## **Simulating Skin-Care Effects through Facial Recognition Technology**



**Dr. Parham Aarabi- CEO**

ModiFace's story starts in 1999 at Stanford University, where the initial research on automatic face analysis began. This work continued at the University of Toronto from 2001 to 2006, including the development of signal processing algorithms that won a worldwide innovation prize from MIT. In 2006, ModiFace Inc. was born.

“ModiFace was founded by applying academic facial recognition research towards the simulation of skin-care effects on photos. In order to truly make the simulations realistic, we had to invent technology to digitally analyze and understand skin conditions from images. This detailed scientific analysis is at the heart of all ModiFace apps, from the 30+ clients apps to the 100+ ModiFace-branded mobile apps.”

**Interview conducted by: Lynn Fosse, Senior Editor, CEOCFO Magazine**

**CEOCFO: Dr. Aarabi, what is the concept for ModiFace?**

**Dr. Aarabi:** The concept is trying on a product on your face before you end up buying the product. We can actually show consumers what they would look like with different cosmetics, skin care effects, or essentially any product that would affect their face. We partner with the beauty brands and magazines in creating these applications and provide it for free to consumers. The brands pay for it for marketing purposes.

**CEOCFO: How are you able to account for all the different skin types and personal attributes?**

**Dr. Aarabi:** We have put a lot of effort in creating technology for understanding images and accounting for lighting – correcting things like lighting and part of the image being dark or bright. It is a very difficult thing to do, and it is always an ongoing challenge. The technology we have today has come a long way, and for the most part, we can actually compensate to make sure products (like lipsticks) look appropriate no matter what the lighting is in the photo. We do not necessarily worry about the photo necessarily being the best image of you. We worry about the realism in the product shown on your face so that it looks as if you were actually wearing the product no matter what the lighting is present.

**CEOCFO: How long has it been available?**

**Dr. Aarabi:** We started seven years ago, and we kept adding more and more options, but only when we knew the options could be very realistic. We started with skin care and expanded to cosmetics and hair about four years ago.

**CEOCFO: Would you tell us, in a practical basis, how and where the product is being used.**

**Dr. Aarabi:** Our application is, for the most part, used on mobile devices as ModiFace apps that people can download. People download them and play with different products, make up and skin care effects. The payment for these comes from brands that sponsor the apps. You can also find them sometimes in stores. There are iPads that we have, for example, with different brands that you can see what you look like with that brands' products. We also find it on websites for many different skin care, hair and beauty brands.

**CEOCFO: Are there certain makeups or skin products that you do not work with now but would like to? Are there particular challenges in certain areas of the body or products?**

**Dr. Aarabi:** We work with the majority of skin-care and beauty brands, though we are not at 100% market share yet. Looking at the past year, we have signed up 25 brands to work with, so there is significant momentum. So, while there are certain brands that we do not work with right now, I expect in the next year or two that will change.

**CEOCFO: Are there parts of the skin or types of makeup that you still have not been able to work with the way you like?**

**Dr. Aarabi:** We can work essentially on any product related to the face. In a 2D simulation - meaning you upload a front facing photo - we can realistically show any effect on a face. The challenge becomes beyond 2D. Often, we find that

people want to see what they look like from the side. They want to turn their face around and be able to get a 3D view of a product. Especially with skin care products, this is quite important. For us, the next big momentum is going from 2D to 3D simulations and getting that full view of what a cosmetic product looks like from different angles.

**CEOCFO: *Where are you in that process?***

**Dr. Aarabi:** We just made an announcement at CES. We demoed an augmented reality kiosk that is real time just like a mirror –you look at it and you see yourself with makeup on the other end. We are also launching a mobile version of this, so in the next few months we will be rolling this out with a few clients.

**CEOCFO: *What was the biggest challenge in putting that piece of the technology together?***

**Dr. Aarabi:** The biggest challenge ends up doing a realistic job and making sure it is real time, so that it is like a mirror and you get instant feedback. For that, we have to actually track every part of the face. We have to have the exact contour of the lips and the contour of the eyes precisely mapped within a tenth of a second. We have to realistically find the lighting on the face, adjust it, apply makeup in a way that actually looks realistic, and all of this needs to happen in 0.1 seconds for a realistic mirror-like effect.

**CEOCFO: *Is there much competition?***

**Dr. Aarabi:** Yes, there are. When we started, we were essentially partnering with brands and offering a technology for 2D simulation. In that space, there was competition. As we have grown, we have focused more on skin care and clinical skin care accuracy. We have focused more on 3D, and we have focused more on mobile. There has been less and less competition as we have gone forward. Which is unfortunate. A competitive game is far more fun and exciting.

**“[Business is] booming. We have almost doubled our business every year for the past five years.” - Dr. Parham Aarabi**

**CEOCFO: *When a customer is using your product, do they know they are using ModiFace?***

**Dr. Aarabi:** They do. All our client applications have a “Powered by ModiFace” logo, and all our mobile applications are actually branded as ModiFace.

**CEOCFO: *Have you seen proof or the tendency that that makes a difference for people? Do they understand that what they are getting is the real thing in that case?***

**Dr. Aarabi:** On client apps, we cannot disclose data about what happens and what people are searching for to find those apps. However, on mobile where it is clearly a ModiFace branded app, you can see what people share and what people talk about when sharing the photos. The social discussions that happen around our apps are things that we can directly measure. The answer to your question is yes. Having the ModiFace name really makes a difference and people do associate that with the most realistic, easiest to use photo editing and makeover tools that one can find on web or mobile.

**CEOCFO: *How do you reach your potential clients?***

**Dr. Aarabi:** That is not so easy. We find them through different trade shows and different events. We often meet and discuss with the people in the beauty industry and especially the marketing people in the beauty industry. How to convince them, bring them on board and make sure they understand the value proposition of what we offer is often something that takes at least a few months to a year. It is an ongoing dialogue. We often have discussion with brands and we show them what we can do. Many of them come on board after having numerous chats with us and join us after maybe six months or a year of these discussions.

**CEOCFO: *Are you working primarily with US companies or are you working worldwide?***

**Dr. Aarabi:** It is worldwide. We have the biggest presence in the US. We also have quite a few clients in Europe, but we also have several clients in Asia as well. In the next few years especially, growth in Asia and the Middle East will be our significant directions forward. We have one client in the Middle East right now, and I expect that to be 10 by the end of 2014. We have five clients in Asia, and I expect that to be anywhere from 25 to 40 by the end of this year. There is significant growth potential in those two areas.

**CEOCFO: *Does the end user view the product in Asia or Europe the same way they view it here?***

**Dr. Aarabi:** It is pretty much the same. Cultural difference can sometimes impact a user’s view, but I have not seen any data indicating major differences.

**CEOCFO: *How is business?***

**Dr. Aarabi:** Booming. We have almost doubled our business every year for the past five years. Right now we are closing in on 40 employees, and in terms of our mobile apps we are about to have our 30 millionth mobile download. It is really moving ahead on mobile, and we are seeing a significant spike in users and downloads for our apps. Internationally, we

are seeing quite a few growth potentials as I mentioned in the Middle East and in Asia. Also in the US, the number of clients we have is growing rapidly. In all areas, the company is growing. The biggest challenge becomes making sure it is managed and that scaling is managed correctly. That is one of my ongoing focuses for next year.

**CEOCFO: *Is skin care on par with the makeup part of what you do? Is there preponderance in one area or the other or are all items being utilized?***

**Dr. Aarabi:** In terms of users and clients, makeup is a bigger market.

**CEOCFO: *Why is ModiFace a company to watch?***

**Dr. Aarabi:** The primary reason is that when you look at what people do on mobile devices, they are uploading photos, playing with the photos, adjusting them, and sharing their photos. At its core, this IS ModiFace. Soon, they will be playing with 3D photos and videos. To be able to virtually apply makeup and virtually touch up your photos is a value to consumers because they would love to touch up their photos before they put them on Facebook or share them. It is also a value to brands because brands love being natively inserted in this photo manipulation process - so you use the brand's virtual products to look better on your photo. We can offer both consumers and brands at the same time a beneficial service - a service on mobile that is growing very rapidly. For that very reason, I feel that ModiFace is a company that has a very bright future in the next few years and decades.

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# ModiFace

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