IJCSN International Journal of Computer Science and Network, Volume 5, Issue 2, April 2016
ISSN (Online) : 2277-5420 www.IJCSN.org
Impact Factor: 1.02

Prediction of Baby Face before Delivery Based on Parent's Face using Image Processing

[1] Mr. Ganesh Padole, [2] Ms. Ashwini Gharde, [3] Mr. Mahesh Panjwani, [4] Mr. Nischal Puri

[1]Assistant Professor, CT Department
Rajiv Gandhi College of Engineering and Research, Nagpur

[2]Assistant Professor, HoD, MCA Department
Rajiv Gandhi College of Engineering and Research, Nagpur

[3]Assistant Professor, Priyadarshani College of Engineering, Nagpur

[4]Assistant Professor, Priyadarshani College of Engineering, Nagpur

Abstract – It is always an interesting topic for each parent that how will be the face of newly born baby. Whether it will be as his/ her mother or like father. This paper depict some analysis on different baby faces and concludes the percentage of baby faces like his / her father or mother, grandfather or grandmother.

Keywords – ***Baby Faces, Image Processing***

1. Introduction

Whenever a lady gets pregnant, there is always an interesting topic in the family that how newly baby will look like after birth apart from whether baby will be a baby boy or baby girl. Not only newly born baby, but also baby face on his / her growing age. Generally it is seen that, a boy or girl takes final face touch at the age of 21 and 18 respectively. However, it will be a topic of research.

2. Literature Review

As we wait for baby, we've probably tried to picture what he might look like. Will he be tall like his father. Will he have curly hair like yours. Or is he going to inherit his grandfather's sense of humor. Experts estimate that there are 60,000 to 100,000 genes (made up of DNA) in a human being's 46 chromosomes. A baby gets 23 chromosomes from his mother and 23 from his father. With all the possible gene combinations, one pair of parents has the potential to produce 64 trillion different children. This probably gives us an idea of how impossible it is to predict just what our baby will look like. The science of genetics is complicated, but with a short course we can get some information to guide your imagination.

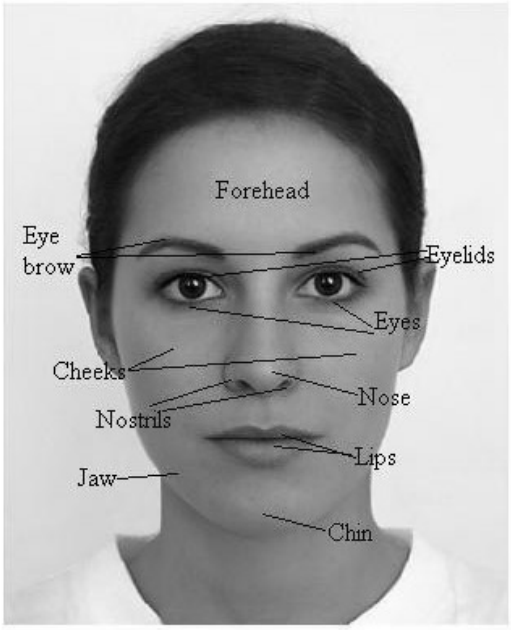

Figure 1: Human Face Basic parts

However, above each part can be divided into further sub-parts. This research is based on only parts listed above.

3. Proposed System

The human face can be divided into following parts, from top to bottom listed below,

- Forehead
- Eyebrow
- Eyes
- Nose
- Cheeks
- Nostrils
- Nose
- Lips
- Jaw
- Chin

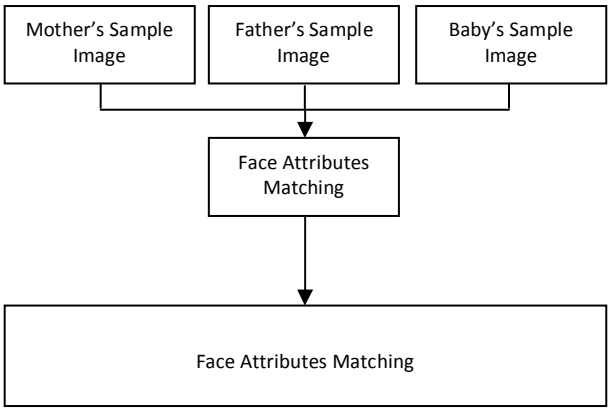

Figure 2 – Proposed System Architecture

4. Analysis

Figure 3: Baby and Parent

3.1 Eye Color

Eye color is determined by the amount of melanin, or brown pigment, in the iris. Dark eyes have large amounts, blue have very little, and other colors -- green, hazel -- have varying amounts. Because different genes are probably responsible for how much brown pigment you inherit and where it shows up in the eye (more brown or blue can fall in the center or outer edges of the eye) there's a great possibility for a wide variety of hues. It's even possible for two blue-eyed parents to have brown-eyed offspring.

Hand shape, finger shape, toenail shape, and unusual traits such as hair with double cowlicks often appear over generations.

Fingerprint patterns have been shown to run in families. And crooked teeth can be inherited too, because the configuration of the jaw and the tilt of the teeth are genetically determined. There's even a specific gene for "gap tooth" that's been discovered and is believed to be dominant.

To get an idea of what quirks and facial features your child may inherit; examine photos of relatives over generations. If it turns out most family members have a prominent chin or a round face, these are fairly strong traits that are likely to be passed on.

5. Conclusion and Future Work

With this system, we conclude that if some samples are taken, then percentage of baby face recognition before his/ her birth can be predicted.

In future work, one can take 100-500 samples and an analysis can be done on different face attributes like eyebrow, chicks etc.

References

[1] G. Yang and T. S. Huang, "Human face detection in complex background," Pattern Recognition Let-ter, vol. 27, no. 1, pp. 53-63, 1994.

[2] C. Kotropoulos and I. Pitas, "Rule-based face detection in frontal views," Proc. Int'l Conf. Acoustics, Speech and Signal Processing, vol. 4, pp. 2537-2540, 1997.

[3] R. L. Hsu, M. Abdel-Mottaleb, and A. K. Jain, "Face detection in color images," IEEE Trans. Pattern Analysis and Machine Intelligence, vol. 24, no. 5, 696–706, 2002.

[4] T. K. Leung, M. C. Burl, and P. Perona, "Finding faces in cluttered scenes using random labeled

graph matching," Proc. Fifth IEEE Int'l Conf. Computer Vision, pp. 637-644, 1995.

[4] E. Saber and A.M. Tekalp, "Frontal-view face detection and facial feature extraction using color, shape and symmetry based cost functions," Pattern Recognition Letters, vol. 17, no. 8, pp. 669-680, 1998.

[5] Vinay Bettadapura, "Face Expression Recognition and Analysis: The State of the Art", http://www.vbettadapura.com/files/FaceExpressionRecSurvey.pdf

[6] Pathak, Sampada S., Prashant Dahiwale, and Ganesh Padole. "A combined effect of local and global method for contrast image enhancement." Engineering and Technology (ICETECH), 2015 IEEE International Conference on. IEEE, 2015.