

soHappy

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Abstract—Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet. Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet.

I. INTRODUCTION

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The research objective of this paper is to design and implement the approach proposed by Moore, Galway and Donnelly in [?]. Finally, a conclusion is drawn in section VII.

II. BACKGROUND

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III. METHODOLOGY

According to [4], lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet. Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet. Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet.

A. User Journey

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B. Architecture

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C. State Machine

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D. User Interface

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E. Model Training

As stated in the background section, soHappy uses a deep learning model to provide information about a person smiling by utilizing TensorFlow.

However, for TFLite to detect smiling, the model must be trained first. This model is not trained on the device, but will be trained in before and shipped with the android app.

The soHappy smile detection model is based a so called convolutional neural network (CNN). CNNs are useful for image analysis purposes. A CNN utilizes multiple convolutional layers as well as pooling layers. A convolutional layer works by looking at regions of an image instead of individual pixels. This is called convolution. A more in depth explanation on how CNN work, see [1].

For the soHappy smile detection model, eight convolutional layers are used. Two convolutional layers are followed by a pooling layer, repeated four times. In the end, the model is flattened. This model architecture is based on the work of Mayur Madnani [3].

As dataset, the data of [2] was used.

IV. IMPLEMENTATION

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V. RESULTS

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VI. DISCUSSION

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VII. CONCLUSION

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