SANTA CLARA UNIVERSITY
DEPARTMENT OF COMPUTER ENGINEERING

Date: November 30, 2017

I HEREBY RECOMMEND THAT THE THESIS PREPARED UNDER MY SUPERVISION BY

Manoj Adhikari
Colby Harper
Sean Karstein

ENTITLED

On the Construction of Matter, or Is There a God Particle?

BE ACCEPTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

BACHELOR OF SCIENCE IN COMPUTER SCIENCE AND ENGINEERING

_____
Thesis Advisor

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Thesis Advisor

_____
Department Chair

_____
Department Chair

On the Construction of Matter, or Is There a God Particle?

by

Manoj Adhikari
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Sean Karstein

Submitted in partial fulfillment of the requirements
for the degree of
Bachelor of Science in Computer Science and Engineering
School of Engineering
Santa Clara University

Santa Clara, California
November 30, 2017

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ABSTRACT

A good abstract is a concise summary (1–2 paragraphs) of the entire project: introduction, problem statement, work accomplished, results, conclusions, and recommendations. When you write the abstract, imagine that the reader will not read anything else, but that you must get your major point across immediately. This requires efficiency of words and phrases. An abstract is written to stand alone, without jargon or reference to figures and tables in the report body.

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Chapter 1

Introduction

1.1 Motivation

This is the introduction to your thesis and should be page number one. The main body of your thesis should be double spaced.

1.2 Solution

Chapter 2

Requirements

2.1 Critical

Bitch you must be smoking crack

2.2 Solution

Chapter 3

Technologies Used

- Hardware

    - Development

        * Macbook Pro

        * ThinkPad

    - Application Testing

        * Iphone 7

        * ThinkPad with Iphone emulator

- Programming Languages

    - Swift

        * For iOS Programming

    - Python

        * For Machine Learning Programming

- IDEs

    - XCode

    - MacVim (or the like)

- APIs

    - TensorFlow

Chapter 4

Design Rationale

We are using a data flow model to increase the speed at which the application will operate. We want the device to recognize when the right moment to take a picture is as fast as possible so that the perfect photo is taken. Because of this, we decided not to have any communication with a server, and instead keep all logic on the local device.

We are using Iphones and the associated iOS devices and software for testing and development because that is what most of our team uses, as well as most of the people we know at Santa Clara University. This will allow for a potentially large alpha testing process during the later stages, as well as eliminating the need to buy iOS phones for beta testing.

Making use of the existing API TensorFlow will allow us to avoid rewriting existing code, saving a lot of time on development.

We will develop the application in XCode with Swift because they are the designated language and editor combination with iOS to make applications. We will use Python to design the machine learning component as it is well documented in coordination with TensorFlow.