FINAL YEAR PROJECT REPORT

HAND GESTURE CONTROLLED DRONE USING MACHINE LEARNING

In fulfillment of the requirement
For degree of
BS (COMPUTER SCIENCES)

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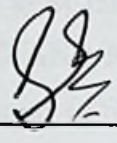
2016-2020

DECLARATION

We hereby declare that this project report is based on our original work except for citations and quotations which have been duly acknowledged. We also declare that it has not been previously and concurrently submitted for any other degree or award at Bahria University or other institutions.

Signature : 

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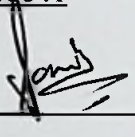
Signature : 

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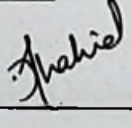
Signature : 

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APPROVAL FOR SUBMISSION

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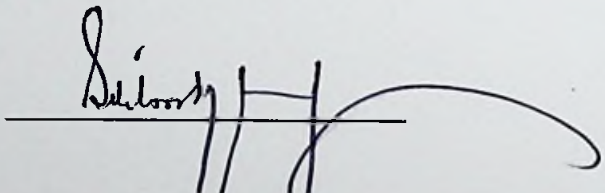
Signature : 

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HAND GESTURE CONTROLLED DRONE USING MACHINE LEARNING

ABSTRACT

The objective of this project is to develop a hand-gesture controlled drone using machine learning. This project uses the Convolution Neural Network model, combined with the background elimination to detect different hand gestures, it takes a running average of the background for 30 frames and afterward utilize that running normal to identify the hand that must be presented after the foundation has been appropriately perceived. A background elimination algorithm removes the hand picture from webcam and utilizes it to prepare to anticipate the kind of signal that is. After trials and errors, a suitable set of training parameters are defined and network structure that contains **seven** hidden convolution layers with **"relu"** as the activation function and **one** fully connected layer. The network is trained across **fifty** iterations with a batch size of **sixty-four**. The model achieves an accuracy of **94.4%** on the testing results. The proportion of preparing set to approval set is 1000:100. The framework first continues with the pre-procedure of the caught picture by wiping out all the undesirable parts in a constant video succession utilizing OpenCV and Python. Separating, division, resizing and includes extraction are additionally acted all the while. Next, a feed forward procedure through the system is summoned to yield a yield lattice. In light of the yield network, the perceived motion can be resolved. This system is designed to customize the network for an individual user.

TABLE OF CONTENTS

DECLARATION		**ii**
APPROVAL FOR SUBMISSION		**iii**
ACKNOWLEDGEMENTS		**v**
ABSTRACT		**vi**
TABLE OF CONTENTS		**vii**
LIST OF TABLES		**x**
LIST OF FIGURES		**xi**
LIST OF SYMBOLS / ABBREVIATIONS		**xiii**
CHAPTER		
1	**INTRODUCTION**	**1**
	1.1 Background	1
	1.2 Motivation	1
	1.3 Problem Statements	2
	1.4 Aims and Objectives	3
	1.5 Scope of Project	3
	1.6 Deep Learning vs. ML	3
2	**LITERATURE REVIEW**	**5**
	2.1 Hand Gestures Controlled Drone by leap Motion Controller	5
	2.2 Moving Object detection: Review of recent research trends	6
	2.3 Hand gesture recognition with leap motion & kinect devices	6
	2.4 Evaluation of background subtraction algorithm	7

	2.5	Hand Gesture Based Drone: An open source	7
3	**DESIGN AND METHODOLOGY**		**8**
	3.1	Proposed project framework	8
	3.1.1.	Image Acquisition	9
	3.1.2.	Hand region segmentation	9
	3.1.3.	Motion detection and thresholding	9
	3.1.4.	Contour Extraction	9
	3.1.5.	Hand gesture recognition	9
	3.1.6.	Classified gesture	10
	3.1.7.	Display text	10
	3.1.8.	Flight simulation	11
	3.2	Design	11
	3.3	Algorithm	17
4	**IMPLMENTATION**		**18**
	4.1	Palm Tracker	18
	4.1 .1	Segment The Hand Region	18
	4.1 .2	Background Subtraction	18
	4.1 .3	Motion Detection And Thresholding	19
	4.1 .4	Contour Extraction	19
	4.1 .5	Usage	19
	4.2	Resizing	23
	4.3	Continuous Gesture Predictor	23
	4.4	Flight Simulation	24
5	**RESULTS AND DISCUSSIONS**		**27**
	5.1	Success Criteria	27
	5.2	Degree of Success	27
	5.3	Performance Analysis	27
	5.4	Experiments	30
	5.5	Discussion of Experimental Results	31
		5.5.1 Visual variability of scene	33

5.6 Learning Experiences 34
5.6.1 Research Techniques 34
5.6.2 Projection Selection Scale 35
5.6.3 Tools 35
5.7 Resources 35
5.7.1 Human Resources 35
5.7.2 Software Resources 35
5.7.3 Hardware Resources 36

6 CONCLUSION AND RECOMMENDATIONS 37
6.1 Assumptions and Limitations 37
6.2 Future Enhancements 37
6.3 Conclusion 38

REFERENCES 39

APPENDICES 41