

FACE DETECTION USING AI

A PROJECT REPORT

SUBMITTED BY

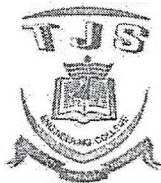
VISHNU PRIYA	112819104064
INDHUJA	112819104015
Ramya	112819104038
Swarna	112819104058

*In partial fulfillment for the
award of the degree of*

BACHELOR OF ENGINEERING

In

COMPUTER SCIENCE AND ENGINEERING

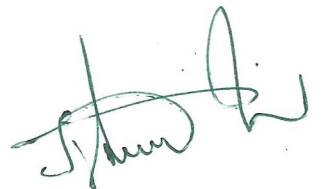


T.J.S. ENGINEERING COLLEGE, PERUVOYAL



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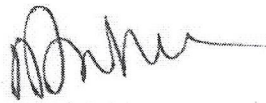
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Peruvoyal, Kavaraipettai,
Gummidipoondi Taluk,
Thiruvallur Dist - 601 206.

BONAFIDE CERTIFICATE

Certificate that this project report "FACE DETECTION USING AI" is the bonafide work of the following students.

Vishnupriya		112819104064	
Indhuja		112819104015	
Ramya		112819104038	
Swarna		112819104058	

Who carried out the project work under my supervision



SIGNATURE



SIGNATURE

Dr.S.Anbu ,M.E.,(Ph.D),

HEAD OF THE DEPARTMENT

Department of Computer Science

and Engineering,

T.J.S. Engineering College,

Peruvoyal.

Mrs.S.V.PRIYANKA.,M.E(CSE).

SUPERVISOR

Department of Computer Science

and Engineering,

T.J.S. Engineering College,

Peruvoyal.

Submitted for viva voce held on 18-6-2022 at T.J.S. Engineering College, Peruvoyal



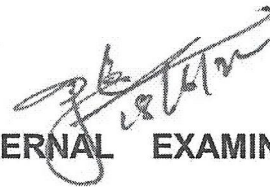
INTERNAL EXAMINER

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EXTERNAL EXAMINER



ABSTRACT

- Computer vision has become a major field of interest in computer science. Object detection is a computer technology related to computervision and image processing that deals with detecting instances of semanticobjects of a certain class (such as humans, buildings, or cars) in digital imagesand videos. Human face detection is a use case of object detection technology. With the advent of technology, face detection has gained a lot of importanceespecially in fields like photography, security, and marketing. In this miniproject we will be identifying human faces in digital image and in real

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OBJECTIVES:

- To know the basics of algorithmic problem solving
- To read and write simple Python programs.
- To develop Python programs with conditionals and loops.
- To define Python functions and call them.
- To use Python data structures – lists, tuples, dictionaries.
- To do input/output with files in Python.

UNIT I ALGORITHMIC PROBLEM SOLVING 9

Algorithms, building blocks of algorithms (statements, state, control flow, functions), notation (pseudo code, flow chart, programming language), algorithmic problem solving, simple strategies for developing algorithms (iteration, recursion). Illustrative problems: find minimum in a list, insert a card in a list of sorted cards, guess an integer number in a range, Towers of Hanoi.

UNIT II DATA, EXPRESSIONS, STATEMENTS 9

Python interpreter and interactive mode; values and types: int, float, boolean, string, and list; variables, assignments, tuple assignment, precedence of operators, comments; modules and functions, function definition and use, flow of execution, parameters and arguments; Illustrative programs: exchange the values of two variables, circulate the values of n variables, distance between two points.

UNIT III CONTROL FLOW, FUNCTIONS 9

Conditionals: Boolean values and operators, conditional (if), alternative (if-else), chained conditional (if-elif-else); Iteration: state, while, for, break, continue, pass; Fruitful functions: return values, parameters, local and global scope, function composition, recursion; Strings: string slices, immutability, string functions and methods, string module; Lists as arrays. Illustrative programs: square root, gcd, exponentiation, sum an array of numbers, linear search, binary search.

UNIT IV LISTS, TUPLES, DICTIONARIES 9

Lists: list operations, list slices, list methods, list loop, mutability, aliasing, cloning lists, list parameters; Tuples: tuple assignment, tuple as return value; Dictionaries: operations and methods; advanced list processing - list comprehension; Illustrative programs: selection sort, insertion sort, mergesort, histogram.

UNIT V FILES, MODULES, PACKAGES 9

Files and exception: text files, reading and writing files, format operator; command line arguments, errors and exceptions, handling exceptions, modules, packages; Illustrative programs: word count, copy file.

TOTAL: 45 PERIODS**OUTCOMES:****Upon completion of the course, students will be able to**

- Develop algorithmic solutions to simple computational problems
- Read, write, execute by hand simple Python programs.
- Structure simple Python programs for solving problems.
- Decompose a Python program into functions.
- Represent compound data using Python lists, tuples, dictionaries.
- Read and write data from/to files in Python Programs.

TEXT BOOKS:

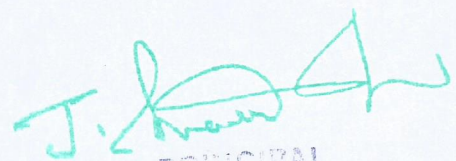
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4. Kenneth A. Lambert, "Fundamentals of Python: First Programs", CENGAGE Learning, 2012.
5. Charles Dierbach, "Introduction to Computer Science using Python: A Computational Problem-Solving Focus, Wiley India Edition, 2013.
6. Paul Gries, Jennifer Campbell and Jason Montojo, "Practical Programming: An Introduction to Computer Science using Python 3", Second edition, Pragmatic Programmers, LLC, 2013.



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