



தமிழ்நாடு அறிவியல் தொழில்நுட்ப மாநில மன்றம்  
TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY  
(Established by Government of Tamilnadu)  
Directorate of Technical Education Campus, Chennai – 600 025.  
Ph : 044-22301428, Telefax : 044-22301552 [www.tanscst.nic.in](http://www.tanscst.nic.in)

Dr.R.SRINIVASAN, M.Sc., Ph.D., F.I.C.S., M.A.C.S (USA),  
Member Secretary

Lr.No.TNSCST/SPS/AR/2019-2020

18.03.2020

To  
The Principal  
SSM Institute of Engineering and Technology  
Dindigul - 624 002

Sir/Madam,

Sub: TNSCST – Student Project Scheme – 2019-2020 – approval  
intimation–grant release- reg.

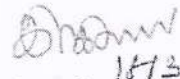
With respect to the above scheme, the list of projects approved by the State Council is enclosed along with terms and conditions. You are requested to adhere to terms and conditions such as submission of UC and Seminar Paper in Time.

Herewith enclosed the cheque for the approved grant and disburse the grant to the concerned students through the guides at the earliest

Kindly send the utilisation certificate (format enclosed) and seminar paper (ref.T&C-no.5&6) on completion of the project.

Thanking you,


Yours faithfully,

  
18/3/20  
Member Secretary.

- Encl: a) Terms & Conditions (T&C)  
b) Format of Utilisation Certificate (UC)  
c) Cheque for Rs.15000/- No: 853120 dt.18.03.2020

Copy to: Individual Guides



  
Dr.D.SENTHIL KUMARAN, M.E., Ph.D., (MUS)  
Principal  
SSM Institute of Engineering and Technology  
Kuttathupatti Village, Sindalagundu (Po),  
Palani Road, Dindigul - 624 002



293. SSM Institute of Engineering and Technology (2) – 15,000/-

Mr. K. S. Arun Kumar Asst. Professor Dept. of ECE SSM Institute of Engineering and Technology Dindigul - 624 002	Artificial intelligence robot for helping passengers in Dindigul Kamarajar bus stand	B.Chandrasekar R.Aasha Banu	EEE- 153	The Principal SSM Institute of Engineering and Technology Dindigul - 624 002	7500/-
Dr. M. Muthukannan Assistant Professor Dept. of Mechanical Engineering SSM Institute of Engineering and Technology Dindigul - 624 002	Extraction of Bio Oil through Electronic Waste	S. Akshar Ali S. Gangatharan V. Johnson M. Karthik	EME- 081	The Principal SSM Institute of Engineering and Technology Dindigul - 624 002	7500/-

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TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY  
DOTE CAMPUS, CHENNAI - 600 025


STUDENT PROJECT SCHEME 2019-2020

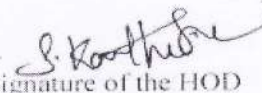
UTILISATION CERTIFICATE

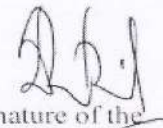
(TWO COPIES)

1. Name of the guide and address : K.S.Arun kumar, Assistant Professor, Department of ECE, SSM Institute of Engineering and Technology, Dindigul-624002
2. Name of the student(s) : B.Chandrasekar, R.Aasha Banu
3. Title of the project : Artificial Intelligence Robot For Helping Passengers In Dindigul Kamarajar Bus Stand
4. Project code : EEE153

It is certified that a sum of Rs.7500 (Rupees Seven Thousand Five hundred ) Sanctioned by the council for carrying out above mentioned student project has been utilized for the purpose for which it was sanctioned and sum of Rs.0 remaining unutilized is refunded.

  
Signature of the guide

  
Signature of the HOD

  
Signature of the

REGISTRAR/PRINCIPAL/DEAN

with seal

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## TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

GOVERNMENT OF TAMILNADU



### CERTIFICATE

This is to certify that Mr. **B. Chandrasekar**, SSM Institute of Engineering and Technology, Dindigul - 624 002 has successfully completed the project titled "*Artificial intelligence robot for helping passengers in Dindigul Kamarajar bus stand*" in the Sector ELECTRICAL, ELECTRONICS AND COMMUNICATION ENGINEERING under STUDENT PROJECT SCHEME sponsored by the Council during the academic year 2019-2020.

Chennai-600025

18.12.2020

No.EET-353/2020

**DR.R.SRINIVASAN**

Member Secretary



**Dr.D.SENTHIL KUMAR**, M.E., Ph.D., (NUS)

Principal

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Belani Road, Dindigul - 624 002





## TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY


GOVERNMENT OF TAMILNADU



### CERTIFICATE

This is to certify that Mrs. **R. AASHA BANU**, SSM Institute of Engineering and Technology, Dindigul - 624 002 has successfully completed the project titled "*Artificial intelligence robot for helping passengers in Dindigul Kamarajar bus stand*" in the Sector ELECTRICAL, ELECTRONICS AND COMMUNICATION ENGINEERING under STUDENT PROJECT SCHEME sponsored by the Council during the academic year 2019-2020.

Chennai-600025  
18.12.2020

  
DR. R. SRINIVASAN  
Member Secretary

No. EEE 153/2020



  
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Dr.D.SENTHIL KUMARAN, M.E., Ph.D., (MUS)  
Principal

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**TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY**

DOTe Campus, Chennai-600025

**STUDENT PROJECTS SCHEME**

Proposals for 2019-2020

([www.tanscst.nic.in](http://www.tanscst.nic.in))

**ARTIFICIAL INTELLIGENCE ROBOT FOR HELPING PASSENGERS IN DINDIGUL  
KAMARAJAR BUS STAND**

**SUBMITTED BY**

**B.CHANDRASEKAR,  
R.AASHA BANU**

**SSM Institute of Engineering and Technology,**

**Sindalagundu (Post),  
Dindigul-624002**

**The Member Secretary,  
Tamilnadu State Council for Science and Technology,  
DOTe Campus,  
Chennai - 600 025**



  
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# ARTIFICIAL INTELLIGENCE ROBOT FOR HELPING PASSENGERS IN DINDIGUL KAMARAJAR BUS STAND

## 1. INTRODUCTION:

The work that we need to do is increasing day-to-day. So it's a good idea to automate the routine work. Traffic in the cities are huge and the people had to be practical about it. In Dindigul at Kamarajar Bus Stand, there are 150 town buses operated daily across 128 different routes that also includes Town buses, City buses and Travels buses in different timings. People in most cities always suffer to find the bus timings and it is absolutely uncertain to predict the bus timings. Kamarajar bus stand is an A grade certified bus stand situated in the heart of Dindigul district. Our project is to develop an Artificial Intelligence Robot that will guide the passengers and the passerby by collecting the details of all the bus timings, important places to visit and the direction to important places. Since Artificial Intelligence is a development of software or hardware system capable of performing a visual interaction, conversation, language translation, image recognition, speech synthesis using Natural Language Processing that makes a drastic improvement to the existing technology. This project is based on AI Machine learning and Data Science as it has to respond to the passengers and update itself for the updated bus timings. The evolution of AI was taken place in centuries before when many historical scientists had found theories and the practical implementation on AI had lead to the huge development that the people had to depend on such technology in the future for their day-to-day activities. The system is done in an accurate manner at low cost that interacts with the passengers like a chat Robot.

## 2. OBJECTIVES:

Using Artificial Intelligence through Machine Learning and Data Science, a system is capable of serving the common people, Employees and clients in an organization by learning the needy by itself. The Technology has provided us unmindful thoughts and the task is to find out the right solutions at the right time. Our objective is to develop an Artificial Intelligence Robot for Dindigul kamarajar Bus Stand which will be more advantageous than displaying the timings on the display screen because most of the people are not comfortable in reading the texts. There is a huge growth in



  
Dr. D. SENTHIL KUMARAN, M.E., Ph.D., (NUS)  
Principal



advancement of such strategies in technology that rise from 57.34 % to 75.68 % in the past 8 years worldwide. This project has a speedy response of 3 seconds after getting the client's input speech signal. The project has the advantage that it has the capability to eliminate the external noise and we can also code custom language keywords for the robot to respond in specific languages like Tamil, English, French. This will escalate the government's net revenue and it also invites more people to use public transport due to its flexibility in technology which also reduces pollution and traffic around the cities. It will also provide certain solutions for the improvement of Smart cities worldwide.

### **3. METHODOLOGY:**

The system is done in an accurate manner at low cost that interacts with the passengers like the chat Robot. To perform conversation with a passenger, the system requires two types of conversion. One is to convert the human voice (speech) to text and the second is to give a response to that text. To design the robot, a microcontroller or a pocket sized processor is needed. So "Raspberry PI" which is a pocket sized processor used for designing the hardware section to perform the speech and text conversion. For designing the Software section, Python Programming is used which is very beautiful, Explicit, Simple, complex and readable. It often uses English keywords rather than some confusing keywords like other languages. A Microphone is used to give an input (Speech) to the processor and the processor gets the input speech signal and using the speech to text conversion algorithm, the speech is converted to text. The text is compared with a spreadsheet and using Text to speech conversion algorithm, the system is responding based on the values in the spreadsheet. A Bluetooth connected Speaker is used, since it has the flexibility to keep it anywhere around the hardware. The hardware and software required for the project is described below.



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