

CERTIFICATE OF INTERNSHIP

Title of the Project	Robotic Arm, Multiple board programing and testing jig, PCB design for ATMEGA328P microcontroller based board
Commencement Date	02/01/2023
Completion Date	01/05/2023
Project Supervisor	Kartik Hegde
Organization/Institution where the Project was accomplished	STEMpedia, Agilo Research Pvt. Ltd. https://thestempedia.com
Project Description:	<ul style="list-style-type: none">• Worked on development of Micropython firmware for ESP32 to run a Robotic Arm. This involved programming the microcontroller, implementing motor control algorithms, and integrating sensors and actuators to achieve precise and reliable movements of the arm. The firmware was implemented using a lightweight version of the Python programming language.• Worked on designing and developing a PCB test fixture, also known as a test jig, during the internship. This equipment is critical in ensuring that products are manufactured according to specification at the production stage.• Solved various major and minor bugs which came from users.• Worked on designing a graphical user interface (GUI) that enables programming of multiple PB03F devices simultaneously. The GUI allows for easy selection of devices and provides real-time progress updates during programming.• Worked on designing a PCB using Altium Designer for mounting a sensor and actuator on an ATmega328P microcontroller based board, Developed a comprehensive understanding of PCB design principles and implemented them to create a functional and efficient circuit board.

Submitted by:	Project Supervisor Details:
Name: Sheetal Jain	Name: Kartik Hegde
College/University: Madhav Institute of technology & science	Company: Agilo Research Pvt. Ltd., Ahmedabad
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Place: AHMEDABAD
Date: 01/05/2023



For Agilo Research Pvt. Ltd.


Authorized Signatory

Supervisor's Signature