CERTIFICATE OF COMPLETION OF INTERNSHIP

This is to certify that Dhruv Chugh, from Veermata Jijabai Technological Institute (VJTI), Mumbai, has successfully completed a two-month summer internship as an IoT Engineer with STEMVentor Educonsulting from **June 3rd, 2024 to July 31st, 2024**.

At STEMVentor we offer learning programs on computing technology of the future. Our K-12 and higher education programs are hands-on and help teachers and students learn how to build complete solutions using a combination of technologies.

During this period, Dhruv Chugh worked under the guidance of Mr. Vikas Mujumdar, the Founder and Chief Educator, and contributed to one of our extremely complex projects, building a **Web3 Distributed App (DApp)** with advanced technologies including **Physical Computing, IoT, Cloud computing, AI/ML, and Blockchain**.

DApps are Autonomous, Distributed, Decentralized and Secure solutions of the future. The DApp implemented in this project takes a real use case from the logistics industry and shows how a delivery can be executed autonomously (without any human intervention) using data captured by sensors, decisions and detection using AI/ML, data stored on a Blockchain network, and payments calculated and transferred using Smart Contracts, all using infrastructure and services on the cloud.

Dhruv worked as part of a team and his contributions to the project included:
- Designing, assembling, programming, and testing the circuits used to capture data using multiple sensors.
- Designing, programming, and deploying AWS services including AWS IoT Core, DynamoDB, AWS API Gateway, and AWS Lambda functions.
- Programming an ANPR (Automatic Number Plate Recognition) solution using AWS Image Rekognition.
- Integrating these solutions with a Smart Contract deployed on a local Blockchain network.

Dhruv showed a strong commitment to learning and problem-solving. For each project, he did thorough research, and designed and implemented the most optimal solution.

Dhruv is not only a hard worker but also a sincere and passionate one. He genuinely loves technology, and you can see it in his work. He is also very curious and disciplined, which means he is always eager to learn new things and is very organized in his work.

Based on his excellent work during his time at STEMVentor, I highly recommend Dhruv Chugh for any future opportunities related to computing technology. I am confident he will add value to any assignment he works on and be a great asset to any organization he works with.

I wish him the very best in his future endeavours.

Vikas Mujumdar
Founder and Chief Educator