Dr. Anirban Dasgupta
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CERTIFICATE

of

INTERNSHIP

TO WHOM IT MAY CONCERN

This is to certify that <u>Miss Sumana Sarkar</u>, pursuing her <u>Bachelor of Science</u> from <u>North Eastern Hill University (NEHU), Shillong</u>, has successfully completed <u>1 month (15.12.23 to 14.02.24)</u> as an intern, under my guidance in online mode. She has worked on <u>implementing a firmware for Arduino for drowsiness detection using real-time heart rate data.</u> During the period of her internship programme, she was found to be fast, punctual, and inquisitive. I wish her every success.

Date: Thursday, February 29, 2024

Anirban Dasgupta

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Dr. Anirban Dasgupta
Assistant Professor
Department of Electronics & Electrical Engineering
Indian Institute of Technology Guwahati
Guwahati-781039, Assam, India

To whom it may concern

Date: 31-01-2024

This is to certify that Miss. Sumana Sarkar, A Bachelor of Science student from North Eastern Hill University (NEHU), has completed a one-and-a-half month-long internship at Jadavpur University, West Bengal. The duration for the internship was from 13th December 2023 to 31st January 2024.

She worked on the project entitled "Decoding the Emotion of Subjects while Solving Multiple Choice Questions using fNIRS signals." This project aimed to process brain signals acquired through functional Near-Infrared Spectroscopy (fNIRS) using diverse classification algorithms. Adept data preprocessing with Python libraries like NumPy and Pandas ensured data readiness for analysis. The focus was on enhancing model accuracy using machine learning algorithms such as SVM and GNN, optimizing iteratively. The overarching goal was to contribute to neuroscientific research by developing a robust system for accurately categorizing brain signals, with potential applications in areas like brain-computer interfaces or clinical diagnoses.

During the internship, Miss. Sumana Sarkar demonstrated a keen interest and enthusiasm to learn new skills. Her dedication to her responsibilities was commendable and all the tasks assigned to her were completed on time and to the best of her abilities.

I wish her all the best for her future career.

Dr. Amit Konar
Professor
Electronics & Telecommunication Engineering
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PROF. AMIT KONAR
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