Co-funded by the
Erasmus+ Programme
of the European Union

Report on Research Training at UWS

From 24-07-2024 to 15-08-2024

Submitted by

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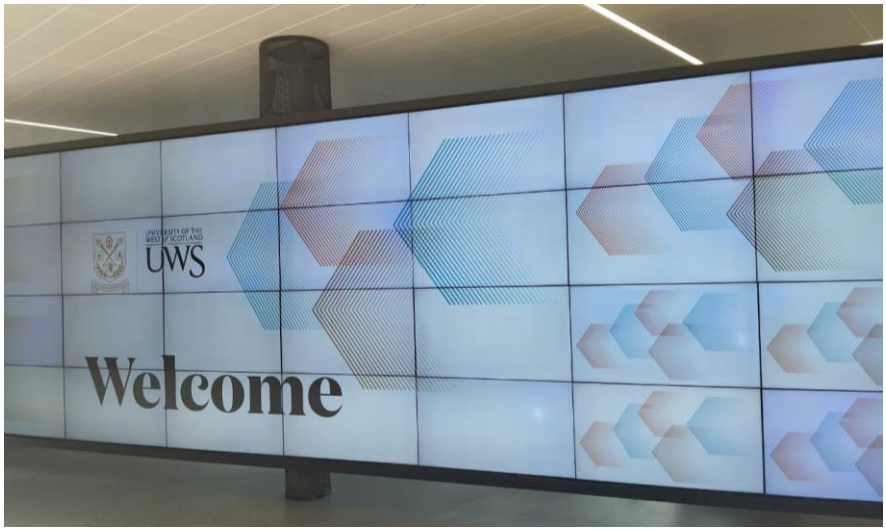
I would like to begin this report by expressing my sincere gratitude to Capital University of Science and Technology (CUST) for providing me with the invaluable opportunity to attend the research training at the University of the West of Scotland (UWS). The knowledge and insights gained during this training will have a lasting impact on our future endeavors, and I deeply appreciate continued commitment of CUST for empowering and developing talent in this critical field.



Following my 21-day research training at the University of the West of Scotland (UWS) in the United Kingdom through the SAFE-RH Mobility Program, I am delighted to share the experiences gained during this period. The primary objective of this training was to advance my academic and professional skills, with a focus on collaborative learning and hands-on training. Additionally, I had the opportunity to engage in both technical and cultural exposure, which significantly enriched the overall experience. I also attended the closing meetings of the SAFE-RH project, which took place from July 29th to 31st, 2023, culminating in a celebration to mark the successful completion of the project.

As part of my research training, I focused on denoising ECG signals, which were collected using the Samsung Watch 6. The raw ECG data from wearable devices often contain noise and artifacts that can interfere with accurate signal analysis. To address this, I applied various filtering techniques to clean the signal and improve its quality for further processing and analysis. These included standard digital filters such as low-pass, high-pass, and band-pass filters, as well as advanced techniques like wavelet denoising. The goal was to ensure that the denoised ECG signal retained critical physiological information and passing it through a trained ML model for inference, allowing for more accurate interpretation in clinical or research settings. This work not only enhanced my understanding of ECG signal processing but also demonstrated the potential of consumer-grade wearable devices in health monitoring applications.

SAFE-RH Closing Meetings

From July 29th to 31st, I participated in the official closing meetings of the SAFE-RH project. These meetings were a critical component of the program, as they marked the transition from the development phase to the dissemination of the project's findings. On July 29th, we reviewed the project's achievements, with each team presenting their contributions to the development of e-health solutions for reproductive health. The discussions highlighted the success of the project in improving access to healthcare, particularly in underserved communities.

On July 30th, the focus shifted to the sustainability and scalability of the project's outcomes. We explored strategies for ensuring that the technologies developed can continue to be used effectively beyond the project's original timeline. The final day, July 31st, featured a closing meeting followed by a BBQ celebration. This event provided an opportunity for all participants to reflect on the project's success and share their personal experiences from the journey. The informal setting fostered stronger connections between the team members, reinforcing the collaborative spirit that had been integral to the project's success.

In conclusion, this research training was an invaluable experience that significantly enhanced my academic and professional development. The combination of technical training, cultural exposure, and the completion of a comprehensive thesis proposal provided a well-rounded experience that will have a lasting impact on my career. Attending the closing meetings of the SAFE-RH project further deepened my understanding of large-scale e-health initiatives and their potential to transform healthcare delivery.

The training not only advanced my technical expertise but also emphasized the importance of cultural awareness in the development and implementation of healthcare solutions. The successful completion of the SAFE-RH project, celebrated with the BBQ event, was a testament to the hard work and dedication of all those involved. This experience has left a lasting impression, and I am excited to apply the skills and knowledge gained to future e-health and reproductive health initiatives.