

SMC eNewsletter's Student Corner Column (June 2024 Issue)

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In this issue of the Student Corner Column, we interview Yong Dong, co-author of the paper "CST Framework: A Robust and Portable Finger Motion Tracking Framework" published in the IEEE Transactions of Human-Machine Systems (Vol. 54, No. 3, June 2024).

1. Please tell us a bit about your background and your research area.

I am currently a Master's student at the College of Medicine and Biological Information Engineering at Northeastern University in China. My research focuses on human-machine systems, particularly the study of wearable devices and algorithms for motion tracking and human-machine interaction. My work on motion tracking solutions is of significant importance for various applications, including robotics, virtual reality, and human-machine interaction.

2. How did you become interested in your field?

The intricate interactions between human physiology and technology have sparked my interest in the field of human-computer systems. The prospect of enhancing human capabilities through wearable technology and the potential for human-machine interaction have attracted me. This charm has focused me on developing human-computer interaction devices, especially in the field of finger motion tracking, to improve human-computer interaction and open up new possibilities in various industries.

3. What motivated you to join the IEEE SMC Society?

The IEEE SMC Society provides a premier forum for researchers and professionals in the fields of systems science and engineering. Joining this society was a strategic step to collaborate with experts, share insights, and stay abreast of the latest advancements. The interdisciplinary nature of the society aligns perfectly with my research goals and the need for integrated approaches to solve complex human-machine interaction problems.

4. What motivated you to publish in the IEEE Transactions on Human-Machine Systems?

The IEEE Transactions on Human-Machine Systems is a leading journal in the field, known for its rigorous peer review and high academic standards. Publishing in this journal ensures that our research reaches a global audience of experts and practitioners. It also provides validation and recognition of the novelty and impact of our work within the scientific community.

5. What is the main innovation in your paper titled "CST Framework: A Robust and Portable Finger Motion Tracking Framework" and its importance to IEEE Transactions on HMS?

The main innovation of the "CST Framework: A Robust and Portable Finger Motion Tracking Framework" lies in its ability to accurately track finger movements using sparse liquid metal sensor signals from data gloves. Its importance to the magazine lies in providing a powerful, portable, and cost-effective solution that improves the efficiency of human-computer interaction, solves the challenges of existing tracking technologies, and expands its applicability in different fields such as robotics, virtual reality, and healthcare.

6. Where would you see yourself in 5-years' time career wise?

In the next five years, I will further explore motion tracking devices and algorithms to advance the field of human-machine interaction. My goal is to expand the application of our motion tracking

devices, exploring their integration into new areas such as telemedicine and advanced prosthetics. Additionally, I plan to engage more deeply with the global research community, contributing to IEEE's mission through innovative research, mentoring, and collaborative projects that push the boundaries of technology and enhance human capabilities.

Biography:



Yong Ding received his BSc degree in Biomedical Engineering from Northeastern University in Shenyang, China, in 2021. He is currently pursuing an MSc degree in Electronic Information at the School of Medical and Biological Information Engineering at Northeastern University. His research focuses on human-machine systems, with an emphasis on wearable devices and algorithms for motion tracking and human-machine interaction. His work aims to enhance the accuracy and efficiency of human-computer interactions. He is passionate about advancing technology to improve human capabilities and is actively engaged with the global research community to push the boundaries of this field.