Chathura Nirmal Weerasinghe

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Professional Summary

Electronic Engineering Undergraduate specializing in Biomedical Engineering at the University of Moratuwa. Passionate about Human-Computer Interaction, wearables, and Embedded Machine Learning. Former Research Intern at the award-winning Exertion Games Lab at Monash University.

Education

University of Moratuwa
B.Sc. in Electronic Engineering (Specialization: Biomedical Engineering)
• GCE Advanced Level: 99th place out of 200,000+ candidates in Sri Lanka
• Achieved A grades in Mathematics, Physics, Chemistry, and English

Research Experience

Research Intern - Exertion Games Lab, Monash University
Supervisors: Dr. Don Samitha Elvitigala, Prof. Florian 'Floyd' Mueller
• Developed 'VibroBits': vibrotactile feedback system for sports training (First Author, SportsHCI '25)
• Designed gaze aversion detection system using Tobii Eye-Trackers
• Prototyped wireless olfactory and thermal devices for lucid dream induction study
• Created AR navigation systems using HoloLens 2 for cyclist attention research

Key Projects

MeasureUP - World Bank Funded Project
• Developed portable BMI measuring device for clinical settings using ultrasound technology
• Implemented K-means clustering algorithm to address low reflections from dense scalp hair
• Achieved 3cm accuracy in height measurement
• Managed FDA-compliant product design and documentation
• Commercially launched as startup with AHEAD program support

Publications

Weerasinghe, C.N., Abeywardhane, R., Kodikara, U., Abewickrema, S., Sabnis, N., Mueller, F., & Elvitigala, D.S. (2025). VibroBits: Visualising Body Centre of Pressure Using Vibrotactile Feedback for Sports Training. *SportsHCI '25: Proceedings of the First Annual Conference on Human-Computer Interaction and Sports.*

van Rheden, V., Abewickrema, S., Kodikara, U., Abeywardhane, R., **Weerasinghe, C.**, Mueller, F., & Elvitigala, D.S. (2025). GestureSock++: Toe Gestures as Alternative Input Method while Cycling. *SportsHCI '25: Proceedings of the First Annual Conference on Human-Computer Interaction and Sports.*

Honors & Awards

• Bronze Medal - Sri Lankan Mathematics Olympiad (2019)
• Bronze Medal - Sri Lankan Physics Olympiad (2019)
• Finalist - Sri Lankan Chemistry Olympiad (2019)
• 9th Place (Senior Category) - 12th International Statistics Olympiad (2020)
• Winner - National Statistics Olympiad (2018, 2019)

Certifications

• Neural Networks and Deep Learning - DeepLearning.AI (2024)
• Improving Deep Neural Networks - DeepLearning.AI (2024)
• Structuring Machine Learning Projects - DeepLearning.AI (2024)
• Public Speaking Course for Young Adults - American Corner Kandy (2023)

Technical Skills

• **Areas of Expertise:** Human-Computer Interaction, Wearable Technology, Embedded Machine Learning
• **Programming & Tools:** Python, Machine Learning, Signal Processing, AR/VR Development
• **Hardware:** Embedded Systems, Biosensors, Eye-Tracking Systems, HoloLens 2
• **Research Skills:** Prototyping, Medical Product Development, Regulatory Compliance