William Primett

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Bio

William Primett is an Interaction Designer and Researcher based in Lisbon affiliated with the AffecTech consortium, pursuing the use of wearable technology for emotional understanding in consideration of mental health disorders. They are investigating new systems for expressive non-verbal communication using physiological data, advocating for non-representational and interpersonal biofeedback.

William's practice takes an interdisciplinary approach to designing expressive systems for immersive performance environments. Starting from their early work, building and performing with DIY musical instruments, and more recently taking influence from a range of physical disciplines, exploring the boundaries of embodied interaction modalities and their potential within real-world applications.

Experience

Doctoral Researcher

FCT, NOVA School of Science and Technology

Aug 2021 - July 2022

Thesis Title · Non-verbal Communication With Physiological Data, The Aesthetic Domain of Biodata and Neural Networks

Final Year PhD Student at the faculty of Biomedical Engineering, preparing for the thesis defence scheduled during the 2021/2022 semester with supervision from Professor Hugo Gamboa.

Early Stage Researcher - Affectech PhD Candidate

PLUX, Wireless Biosignals S.A.

Jun 2018 - May 2021 (3 years)

- R&D to extend usability of BITalino R-IoT device
- Development of client-server program for prototyping sensor-based applications
- Solutions for device synchronisation over Wi-Fi networks

Visiting Researcher

M-ITI

May 2019 - Jul 2019 (3 months)

The second Moving Digits workshop took place on June 17-20, at Madeira Interactive Technologies Institute (M-ITI), Funchal, Portugal. It was an exploration and testing workshop, involving 10 international dancers. 9 project partner members (from M-ITI, HSD, STL, Tanzhaus NRW, University of Greenwich and Plux) also took part. https://movingdigits.eu/workshop2/

Visiting Researcher

KTH Royal Institute of Technology

Jan 2019 - Feb 2019 (2 months)

Preliminary research and development into novel actuation systems designed for somaesthetic awareness, initially user-tested during AffecTech biofeedback workshop.

Jung, A. et al., 2021, *Exploring Awareness of Breathing through Deep Touch Pressure*, in: Conference on Human Factors in Computing Systems (CHI'21)

Research Intern

Goldsmiths Digital

Jul 2017 - Dec 2017 (6 months)

Working with a team of Goldsmiths researchers to develop an interactive audio generation application (LSTM Synth) for high-profile musicians. The system uses deep learning technologies to predict audio frames from training examples, provided by a back catalogue of pre-recorded stems or from live audio input. The role also involved building and configuring a CUDA compatible workstation in the client's studio that could be used by our researches and the band members.

The project has since gained attention from the University of Durham, the University of Sussex, and Google Magenta, and also received funding the UK's Arts and Humanities Research Council (AHRC), providing support for the up-scaled MIMIC project. https://www.doc.gold.ac.uk/blog/?p=2635

Freelance Hardware Engineer

King's 20 Accelerator - GripBeats

Sep 2016 - May 2017 (9 months)

As part of the King's 20 accelerator programme, I joined a team of music technology innovators to design and develop usable prototypes to be used in early pitches and demos to raise funding. Since gaining support from the Stefan Allesch-Taylor Scholarship, HKSTP and the Soyoye Technology Innovation Prize, the company have been able to outsource their production overseas whilst continuing research and development.

Publications

1. Sound Feedback for Social Distance: The Case for Public Interventions during a Pandemic. MPDI Electronics, Information and Communications Technologies (ICT) to Deal with COVID-19 (2022)
2. Designing Interactive Visuals for Dance from Body Maps: Machine Learning and Composite Animation Approaches. Proceedings of the 2022 Designing Interactive Systems Conference (2022)
3. Biosensing and Actuation—Platforms Coupling Body Input-Output Modalities for Affective Technologies. MDPI Sensors (2020)
4. How do dancers want to use interactive technology? Appropriation and layers of meaning beyond traditional movement mapping. In Proceedings of the 9th International Conference on Digital and Interactive Arts (2019)
5. Exploring Awareness of Breathing through Deep Touch Pressure. Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems (2021)

Education

NOVA School of Science and Technology

Doctor of Philosophy - PhD, Biomedical/Medical Engineering

2018 - 2021

Instituto Superior Técnico

Advanced Studies Diploma in Computer Science and Engineering

2019 - 2019

Doctoral Exchange Program

Completed PhD Course in Advanced Topics in Human-Computer Interaction:

Goldsmiths, University of London

MSci, Creative Computing

2014 – 2018

Research Interests: HCI, Interactive Machine Learning, Performance Technology, Audio-Visual Composition