

YUN SUEN PAI, PH.D.

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I am a **Lecturer** at the University of Auckland, New Zealand, where I also co-direct the Empathic Computing Lab. Previously, I was a **Project Senior Assistant Professor** at the Keio University Graduate School of Media Design, Japan, where I led the **Physionetic Interactions Group** at the Embodied Media Lab. My research vision is that of an **Inclusive Reality, where I explore systems that understand cognitive/behavioral/emotional states, assist the self and others, and augment abilities to empower diverse individuals.**

AREAS OF EXPERTISE

Augmented/Virtual/Mixed Reality, Physiological Sensing, Applied Machine/Deep Learning, Perception and Behavior Change, Assistive/Inclusive Technology

WORK EXPERIENCE

School of Computer Science, University of Auckland

Lecturer (tenured)

Auckland, New Zealand
December 2023 | Current

- Co-direct the Empathic Computing Laboratory

Graduate School of Media Design, Keio University

Project Senior Assistant Professor (non-tenured)

Yokohama, Japan
May 2022 | October 2023

- Conduct Research under the Cybernetic Being Moonshot Project
- Led the Physionetic Interactions (research on physiology and cybernetic avatars, 17 members) research group within the Embodied Media Laboratory

Graduate School of Media Design, Keio University

Project Assistant Professor (non-tenured)

Yokohama, Japan
April 2021 | April 2022

- Conduct Research under the Cybernetic Being Moonshot Project
- Led the Empathic Interactions (research on emotions, 10 members) and Transcending Bodies (research on robotics, 6 members) research group within the Embodied Media Laboratory

Auckland Bioengineering Institute, University of Auckland

Postdoctoral Research Fellow

Auckland, New Zealand
June 2019 | March 2021

- Conduct Research in the Empathic Computing Laboratory

Graduate School of Media Design, Keio University

Researcher

Yokohama, Japan
October 2018 | March 2019

- Conduct Research under the Kiban B Project "Deep Learning the Human Mind"

Graduate School of Media Design, Keio University

Research Assistant

Yokohama, Japan
August 2017 | September 2018

- Perform collaborative research and development with NTT Media Intelligence Laboratories

Faculty of Engineering, University of Malaya

Research Assistant

Kuala Lumpur, Malaysia
August 2013 | August 2015

- Conduct research and development on a project-basis

MK (M) Electric HoneyWell Sdn. Bhd.

Intern Trainee

Kuala Lumpur, Malaysia
June 2012 | September 2012

- Internship under the Global Product Design Centre (GPDC) Department

EDUCATION

Keio University Yokohama, Japan
Ph.D. Media Design September 2015 - September 2018
Thesis: Convex Interactions: Towards Efficient Human Motion In Peripersonal Space Using Virtual Reality

University of Malaya Kuala Lumpur, Malaysia
Masters Engineering Science August 2013 - August 2015
Thesis: Development of an Immersive Augmented Reality-Based Computer Numerical Control Simulation System

University of Malaya (CGPA 3.42/4.00) Kuala Lumpur, Malaysia
BS Computer Aided Design and Manufacturing Engineering July 2009 - July 2013
Thesis: Augmented Reality-Based Programming, Planning, and Simulation of a Robotic Work Cell

TEACHING EXPERIENCE

University of Auckland

- Human-Computer Interaction (2024, 2025)
- Advanced Human-Computer Interaction (2024, 2025)
- Research Methods in Computer Science (2024)
- Introduction to Software Fundamentals (2025)

Keio University

- Cybersecurity for Businesses (2023)
- Perception Aware Computing (2023)
- Research Methodology for Science and Engineering (2023)
- Innovation Pipeline: Metaverse Design with Mozilla Spark and PlayCanvas (2023)
- Thesis Writing Workshop (2022,2023)
- Empathetic Computing in Virtual Spaces (2022)
- Innovation Pipeline: Collaborative Prototyping - 2D Prototyping with Figma (2022)
- Innovation Pipeline: Collaborative Prototyping - 3D Prototyping with PlayCanvas (2022)
- Innovation Pipeline: Collaborative Prototyping - Virtual Prototyping (2021)
- Innovation Pipeline: Collaborative Prototyping - Design Sprint (2021)
- Masters Tutoring: Introduction to HCI (2018)
- Workshop (Master Level): Using WebVR with Vizard Interface (2016, 2017)
- Masters Tutoring: Research Methodology (2017)
- Supervised and mentored over 5 Ph.D. students
- Supervised and mentored over 20 Master students

University of Malaya

- Masters Tutoring: Using the KukaSIM simulation program (2015)
- Undergraduate Tutoring: Programming for a Programmable Interface Controller (PIC) (2015)
- Masters Tutoring: Finding the inverse kinematics of a KUKA robot arm (2014)

PROFESSIONAL RESEARCH ACTIVITIES

- Associate Editor of the Empathic Computing Journal
- Invited as a seminar speaker at the UniSA IVE Seminar Series (2024).
- CHI 2025 Design Subcommittee Member.
- Chair for Siggraph Asia 2024 XR.
- ISMAR Publicity Chair, 2024
- Augmented Humans Publication Chair, 2024
- EmpathiCH CHI Workshop Organizer, 2024
- Paper reviewer for ISWC, IMWUT (UbiComp), MobileHCI, PervasiveHealth, ISMAR, Siggraph Asia, Siggraph, MUM, TEI, Transactions on Fuzzy Systems, Plos One, Frontiers Psychology, ACM Computing Surveys, IEEE Access, Transactions on Neural Systems & Rehabilitation Engineering, VRST, IEEEVR, AH, OZCHI, UIST, and CHI.

- PC member for MUM 2018, Augmented Humans 2020 Poster and Demo, Siggraph Asia 2021 Emerging Technologies, Augmented Humans 2020 Demo, Siggraph Asia 2022 Emerging Technologies, ICAT-EGVE 2022 Publicity, Augmented Humans 2023, Siggraph Asia 2023 XR.
- Primary Topic Editor for Frontiers in Virtual Reality research topic "XR for Pro-social Behaviour Change: From Empathy to Assistance".
- Supported and attended the Dagstuhl Seminar 23482 "Social XR: The Future of Communication and Collaboration". Coordinated and edited the Seminar Report.
- Interviewed and participated in a podcast by Japan Science and Technology regarding Increasing Accessibility and Understanding Emotions for Moonshot Research.
- Invited as a seminar speaker at the Empathic Computing Lab (2023).
- Invited as a seminar speaker at the NUS-HCI lab (2022).
- Organized and hosted the Empathic Computing Seminar Series (2019 - 2021).
- Supported and attended the NZXR Summit 2020.
- Supported and attended the Shonan Meeting 135 "Augmented Reality in Human-Computer Interaction".
- Presented at the CHI 17 Workshop on Amplification and Augmentation of Human Perception (May 2017)
- Supported and attended the Dagstuhl Seminar 17062 "Beyond VR and AR: Reimagining Experience Sharing". Coordinated and edited the Seminar Report.
- Participated in UIST Doctoral Symposium 2016.

AWARDS

Vol. 6 Distinguished Paper Award	IMWUT 2023
Total VREcall: Using Biosignals to Recognize Emotional Autobiographical Memory in Virtual Reality October 2023	
Runner up for Healthy Aging Prize for Asian Innovation	HAPI 2022
Dementia Eyes: Experiencing Dementia through AR September 2022	
Runner up for Best Technical XR Demo	Siggraph Asia 2019 XR
HyperDrum: Interactive Synchronous Drumming in Virtual Reality using Everyday Objects November 2019	
Best Poster Award	SUI 2017
AnyOrbit: Fluid 6DOF spatial navigation of virtual environments using orbital motion October 2016	
AUN/SEED-Net Full Scholarship	Japan International Cooperation Agency
Full scholarship for Ph.D. program September 2015	
Best Presentation	ICMST 2014
Implementation of a Voice- Control System for Issuing Commands in a Virtual Manufacturing Simulation Process June 2014	
MyBrain15 MyMaster Scholarship	Ministry of Higher Education Malaysia
Full scholarship for Masters program August 2013	
Institution Best Project	Institution of Mechanical Engineers UK
Augmented Reality Based Programming, Planning, and Simulation of a Robotic Work Cell August 2013	
Best Undergraduate Thesis Award	Faculty of Engineering, University of Malaya
Best Undergraduate thesis at CAD/M Engineering June 2013	

GRANTS AND FUNDINGS

UoA FoS New Staff Grant	University of Auckland
Grant amount: \$20,000 for proposal entitled Development of a Bioresponsive MR Toolkit for Neurodivergent Individuals to Overcome Social Anxiety 2025 - 2026	
Cybernetic Being Moonshot Project	Japan Science and Technology Agency
Grant amount: \$5,000,000 / 5 years managed by PI Minamizawa. I manage a portion dedicated to the proposal entitled the Empathic Metaverse Platform 2020 - 2025	

Google ATAP Collaboration Project Grant amount: \$100,000 for proposal entitled Multi-Scale, Multi-Radar Interactive System	Google ATAP / University of Auckland January 2021
Ignition Point Collaboration Project Grant amount: 5,000,000¥ for proposal entitled Increasing Human Field-of-View using Virtual Reality	Ignition Point / Keio University April 2019
Keio Young Fellow Research program 2018 Grant amount: 500,000¥ for proposal entitled Convex Interactions: Physiological Signal-Driven Virtual Reality in Social Spaces	Keio University July 2018
Keio Grant-in-Aid program 2017 Grant amount: 500,000¥ for proposal entitled Physiological Signal-Driven Virtual Reality in Social Spaces	Keio University July 2017
Keio Kenkyuu no Susume program 2017 Grant amount: 700,000¥ for proposal entitled Physiological Signal-Driven Virtual Reality in Social Spaces	Keio University July 2017
Keio Grant-in-Aid program 2016 Grant amount: 300,000¥ for proposal entitled Physiological Sensing-Based Virtual Reality	Keio University June 2016
Keio Kenkyuu no Susume program 2016 Grant amount: 500,000¥ for proposal entitled Physiological Sensing-Based Virtual Reality	Keio University June 2016
Keio Young Fellow Research program 2016 Grant amount: 500,000¥ for proposal entitled Physiological Sensing-Based Virtual Reality	Keio University June 2016

PATENT FILINGS

A device and program to simulate dementia experience Patent Number: 2021-141977 Contributors: Ximing Shen, Pai Yun Suen , Kouta Minamizawa, Dai Kiuchi, Kanoko Oishi
Tactile presentation device, method and program Patent Number: 2019-125855 Contributors: Takuro Nakao, Pai Yun Suen , Kai Kunze, Megumi Isogai, Daisuke Ochi, Hideaki Kimata
Video operating device, video operation method, and image manipulation programs Patent Number: 2018-141395 Contributors: Kai Kunze, Pai Yun Suen , Takuro Nakao, Megumi Isogai, Daisuke Ochi, Hideaki Kimata
Using a computer program to provide image-based interaction Patent Number: 2017-137097 Contributors: Daisuke Ochi, Megumi Isogai, Hideaki Kimata, Outram Benjamin Ian, Pai Yun Suen , Kai Kunze, Kouta Minamizawa

JOURNAL PUBLICATIONS

- SealMates: Improving Communication in Video Conferencing using a Collective Behavior-Driven Avatar** *CSCW 2024*
<https://dl.acm.org/doi/abs/10.1145/3637395>
Mark Armstrong, Chi-Lan Yang, Kinga Skiers, Mengzhen Lim, Tamil Selvan Gunasekaran, Ziyue Wang, Takuji Narumi, Kouta Minamizawa, **Yun Suen Pai**
- CAEVR: Biosignals-Driven Context-Aware Empathy in Virtual Reality** *IEEE Transactions on Visualization and Computer Graphics*
<https://ieeexplore.ieee.org/abstract/document/10458349>
Kunal Gupta, Yuewei Zhang, Tamil Selvan Gunasekaran, Nanditha Krishna, **Yun Suen Pai**, Mark Billinghurst

3. **RadarHand: a Wrist-Worn Radar for On-Skin Touch-based Proprioceptive Gestures** *ACM Transactions on Computer-Human Interaction (TOCHI)*
<https://dl.acm.org/doi/abs/10.1145/3617365>
 Ryo Hajika, Tamil Selvan Gunasekaran, Chloe Dolma Si Ying Haigh, **Yun Suen Pai**, Eiji Hayashi, Jaime Lien, Danielle Lottridge, Mark Billinghurst
4. **Frisson Waves: Exploring Automatic Detection, Triggering and Sharing of Aesthetic Chills in Music Performances** *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT 2022)*
<https://dl.acm.org/doi/abs/10.1145/3550324>
 Yan He, George Chernyshov, Jiawen Han, Dingding Zheng, Ragnar Thomsen, Danny Hynds, Muyu Liu, Yuehui Yang, Yulan Ju, **Yun Suen Pai**, Kai Kunze, Kouta Minamizawa, Jamie A Ward
5. **Total VREcall: Using Biosignals to Recognize Emotional Autobiographical Memory in Virtual Reality** *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT 2022)*
<https://dl.acm.org/doi/abs/10.1145/3534615>
 Kunal Gupta, Sam W.T. Chan, **Yun Suen Pai**, Nicholas Strachan, John Su, Alexander Sumich, Suranga Nanayakkara, Mark Billinghurst
6. **NapWell: an EOG-based sleep assistant exploring the effects of virtual reality on sleep onset** *Virtual Reality*
<https://link.springer.com/article/10.1007/s10055-021-00571-w>
Yun Suen Pai, Marsel L. Bait, Juyoung Lee, Jingjing Xu, Roshan L Peiris, Woontack Woo, Mark Billinghurst, Kai Kunze
7. **Assessing Hands-Free Interactions for VR using Eye Gaze and Electromyography** *Virtual Reality*
<https://link.springer.com/article/10.1007/s10055-018-0371-2>
Yun Suen Pai, Tilman Dinger, Kai Kunze
8. **Virtual planning, control, and machining for a modular-based automated factory operation in an augmented reality environment** *Scientific Reports*
<https://www.nature.com/articles/srep27380>
Yun Suen Pai, Hwa Jen Yap, Siti Zawiah Md Dawal, S Ramesh, Sin Ye Phoon
9. **Interactive solution approach for loop layout problem using virtual reality technology** *The International Journal of Advanced Manufacturing Technology*
<https://link.springer.com/article/10.1007/s00170-016-9219-7>
 Sin-Ye Phoon, Hwa-Jen Yap, Zahari Taha, **Yun Suen Pai**
10. **Augmented reality-based programming, planning and simulation of a robotic work cell** *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*
<http://journals.sagepub.com/doi/abs/10.1177/0954405414534642>
Yun Suen Pai, Hwa Jen Yap, Ramesh Singh
11. **Development of an Augmented Reality-Based G-Code Generator in a Virtual CNC Milling Simulation** *International Journal of Computer Science and Engineering (IJCSE)*
 Yap Hwa Jen, **Yun Suen Pai**, Chang Siow-Wee, Yap Keem Siah
12. **Framework of Augmented Reality Approach Towards Ergonomic Assessment of Driver Vehicle Package Design** *Jurnal Teknologi*
 Chew Sze Soon, Raja Ariffin Raja Ghazilla, Yap Hwa Jen, **Yun Suen Pai**

CONFERENCE PUBLICATIONS

13. **Impact of Vibrotactile Triggers on Mental Well-Being Through ASMR Experience in VR** *EuroHaptics 2024*
https://link.springer.com/chapter/10.1007/978-3-031-70061-3_32
 Danyang Peng, Tanner Person, Ximing Shen, **Yun Suen Pai**, Giulia Barbareschi, Shengyin Li, Kouta Minamizawa

14. **Cymatics Cup: Shape-Changing Drinks by Leveraging Cymatics** *CHI 2024*
<https://doi.org/10.1145/3544548.3581009>
Weijen Chen, Yang Yang, Kao-Hua Liu, **Yun Suen Pai**, Junichi Yamaoka, Kouta Minamizawa
15. **A User Study on Sharing Physiological Cues in VR Assembly Tasks** *IEEEVR 2024*
<https://ieeexplore.ieee.org/abstract/document/10494102/>
Prasanth Sasikumar, Ryo Hajika, Kunal Gupta, Tamil Selvan Gunasekaran, **Yun Suen Pai**, Huidong Bai, Suranga Nanayakkara, Mark Billinghurst
16. **Dementia Eyes: Co-Design and Evaluation of a Dementia Education Augmented Reality Experience for Medical Workers** *CHI 2023*
<https://doi.org/10.1145/3544548.3581009>
Ximing Shen, **Yun Suen Pai**, Dai Kiuchi, Kehan Bao, Tomomi Aoki, Hikari Meguro, Kanoko Oishi, Ziyue Wang, Sohei Wakisaka, Kouta Minamizawa
17. **Seeing our Blind Spots: Smart Glasses-based Simulation to Increase Design Students' Awareness of Visual Impairment** *UIST 2022*
<https://dl.acm.org/doi/abs/10.1145/3526113.3545687>
Qing Zhang, Giulia Barbareschi, Yifei Huang, Juling Li, **Yun Suen Pai**, Jamie A Ward, Kai Kunze
18. **Furekit: Wearable Tactile Music Toolkit for Children with ASD** *EuroHaptics 2022*
https://link.springer.com/chapter/10.1007/978-3-031-06249-0_35
Di Qi, Mina Shibasaki, Youchi Kamiyama, Sakiko Tanaka, Bunsuke Kawasaki, Chisa Mitsuhashi, **Yun Suen Pai**, Kouta Minamizawa
19. **KinVoices: Using Voices of Friends and Family in Voice Interfaces** *CSCW 2021*
<https://dl.acm.org/doi/abs/10.1145/3479590>
Sam WT Chan, Tamil Selvan Gunasekaran, **Yun Suen Pai**, Haimo Zhang, Suranga Nanayakkara
20. **Jammify: Interactive Multi-sensory System for Digital Art Jamming** *Interact 2021*
<https://dl.acm.org/doi/abs/10.1145/3479590>
Sachith Muthukumarana, Don Samitha Elvitigala, Qin Wu, **Yun Suen Pai**, Suranga Nanayakkara
21. **NeuralDrum: Perceiving Brain Synchronicity in XR Drumming** *Siggraph Asia 2020*
<https://dl.acm.org/doi/abs/10.1145/3428361.3428404>
Yun Suen Pai, Ryo Hajika, Kunal Gupta, Prasanth Sasikumar, Mark Billinghurst
22. **FingerFlex: Shape Memory Alloy-based Actuation on Fingers for Kinesthetic Haptic Feedback** *MUM 2020*
<https://dl.acm.org/doi/abs/10.1145/3428361.3428404>
Takuro Nakao, Kai Kunze, Megumi Isogai, Shinya Shimizu, **Yun Suen Pai**
23. **Multiplex Vision: Understanding Information Transfer and F-Formation With Extended 2-Way FOV** *VRST 2020*
<https://dl.acm.org/doi/abs/10.1145/3385956.3418954>
Mark Armstrong, Keitaro Tsuchiya, Feng Liang, Kai Kunze, **Yun Suen Pai**
24. **Measuring human trust in a virtual assistant using physiological sensing in virtual reality** *IEEEVR 2020*
<https://ieeexplore.ieee.org/abstract/document/9089632>
Kunal Gupta, Ryo Hajika, **Yun Suen Pai**, Andreas Duenser, Martin Lochner, Mark Billinghurst
25. **OmniView: An Exploratory Study of 360 Degree Vision using Dynamic Distortion based on Direction of Interest** *AHs 2020*
<https://dl.acm.org/doi/abs/10.1145/3384657.3384796>
Feng Liang, Stevanus Kevin, Holger Baldauf, Kai Kunze, **Yun Suen Pai**
26. **In ai we trust: Investigating the relationship between biosignals, trust and cognitive load in vr** *VRST 2019*
<https://dl.acm.org/doi/abs/10.1145/3338286.3340129>
Kunal Gupta, Ryo Hajika, **Yun Suen Pai**, Andreas Duenser, Martin Lochner, Mark Billinghurst

27. **Private reader: Using eye tracking to improve reading privacy in public spaces** *MobileHCI 2019*
<https://dl.acm.org/doi/abs/10.1145/3338286.3340129>
 Kirill Ragozin, **Yun Suen Pai**, Olivier Augereau, Koichi Kise, Jochen Kerdels, Kai Kunze
28. **PinchMove: Improved Accuracy of User Mobility for Near-Field Navigation in Virtual Environments** *MobileHCI 2018*
<https://dl.acm.org/citation.cfm?id=3229470>
Yun Suen Pai, Zikun Chen, Liwei Chan, Megumi Isogai, Hideaki Kimata, Kai Kunze
29. **AnyOrbit: Orbital Navigation in virtual environments with eye-tracking** *ETRA 2018*
<https://dl.acm.org/citation.cfm?doid=3204493.3204555>
 Benjamin I Outram, **Yun Suen Pai**, Tanner Person, Kouta Minamizawa, Kai Kunze
30. **Armswing: using arm swings for accessible and immersive navigation in AR/VR spaces** *MUM 2017*
<https://dl.acm.org/citation.cfm?id=3152864>
Yun Suen Pai, Kai Kunze
31. **Development of Augmented Reality Approach Towards Ergonomic Assessment of Driver Vehicle Package Design** *ICE and ICIE 2015*
 Chew Sze Soon, Raja Ghazilla Raja Ariffin, Yap Hwa Jen, **Yun Suen Pai**
32. **Augmented Reality Assisted Factory Layout Planning and Analysis for a Flexible Manufacturing Cell** *ICCSCM 2014*
Yun Suen Pai, Yap Hwa Jen, Singh Ramesh, Chang Siow-Wee, Cheong Kok Leong Royston, Taha Zahari
33. **Implementation of a Voice-Control System for Issuing Commands in a Virtual Manufacturing Simulation Process** *Advanced Materials Research*
<https://www.scientific.net/AMR.980.165>
Yun Suen Pai, Hwa Jen Yap, Ramesh Singh

SHORT PAPER, POSTER, DEMO, AND WORKSHOP PUBLICATIONS

34. **NatureBlendVR: A Hybrid Space Experience for Enhancing Emotional Regulation and Cognitive Performance** *Siggraph Asia 2024 Poster*
<https://dl.acm.org/doi/full/10.1145/3681756.3697956>
 Kinga Skiers, Peng Danyang, Giulia Barbareschi, **Yun Suen Pai**, Kouta Minamizawa
35. **Transcendental Chakra: A Multi-Sensory Meditation Spiritual Journey to Enhance Self-Awareness Based on VR** *Siggraph Asia 2024 XR*
<https://dl.acm.org/doi/abs/10.1145/3681759.3688927>
 Danyang Peng, Shengyin Li, Tanner Person, Giulia Barbareschi, **Yun Suen Pai**, Kouta Minamizawa
36. **Re-Touch: A VR Experience for Enhancing Autobiographical Memory Recall Through Haptic and Affective Feedback** *Siggraph Asia 2024 XR*
<https://dl.acm.org/doi/abs/10.1145/3681759.3688916>
 Tamil Selvan Gunasekaran, Yulan Ju, Giulia Barbareschi, Kouta Minamizawa, **Yun Suen Pai**, Mark Billinghurst
37. **NatureBlendVR: Hybrid Space Interactive Experience For Emotional Regulation And Cognition Improvement** *Siggraph Asia 2024 XR*
<https://dl.acm.org/doi/abs/10.1145/3681759.3688929>
 Kinga Skiers, Danyang Peng, Giulia Barbareschi, **Yun Suen Pai**, Kouta Minamizawa
38. **Explorations in Designing Virtual Environments for Remote Counselling** *ISMAR 2024 Workshop*
<https://ieeexplore.ieee.org/abstract/document/10765133/>
 Jiashuo Cao, Wujie Gao, **Yun Suen Pai**, Simon Hoermann, Chen Li, Nilufar Baghaei, Mark Billinghurst

39. **EMiRAs-Empathic Mixed Reality Agents** *CHI 2024 Workshop*
<https://dl.acm.org/doi/abs/10.1145/3661790.3661791>
Zhuang Chang, **Yun Suen Pai**, Jiashuo Cao, Kunal Gupta, Mark Billinghurst
40. **EmpathiCH: Scrutinizing Empathy-Centric Design Beyond the Individual** *CHI 2024*
<https://dl.acm.org/doi/abs/10.1145/3613905.3636297>
Alok Debnath, Allison Lahkala, Hüseyin Uğur Genç, Ewan Soubutts, Michal Lahav, Tiffanie Horne, Wo Meijer, **Yun Suen Pai**, Yen-Chia Hsu, Giulia Barbareschi, Himanshu Verma, Andrea Mauri
41. **asmVR: Enhancing ASMR Tingles with Multimodal Triggers Based on Virtual Reality** *Siggraph Asia 2023 XR*
<https://dl.acm.org/doi/abs/10.1145/3610549.3614597>
Danyang Peng, Tanner Person, Kinga Skiers, Ruoxin Cui, Mark Armstrong, Kouta Minamizawa, **Yun Suen Pai**
42. **asmVR: VR-Based ASMR Experience with Multimodal Triggers for Mental Well-Being** *Siggraph Asia 2023 Poster*
<https://dl.acm.org/doi/abs/10.1145/3610542.3626146>
Danyang Peng, Tanner Person, Ruoxin Cui, Mark Armstrong, Kouta Minamizawa, **Yun Suen Pai**
43. **OwnDiffusion: A Design Pipeline Using Design Generative AI to preserve Sense Of Ownership** *Siggraph Asia 2023 Poster*
<https://dl.acm.org/doi/abs/10.1145/3610542.3626142>
Yaokun Wu, Kouta Minamizawa, **Yun Suen Pai**
44. **FoodMorph: Changing Food Appearance Towards Less Unhealthy Food Intake** *Siggraph Asia 2023 Poster*
<https://dl.acm.org/doi/abs/10.1145/3610542.3626149>
Ruoxin Cui, Weijen Chen, Danyang Peng, Kouta Minamizawa, **Yun Suen Pai**
45. **Project Corvus: A Virtual Reality Horror Tool for Improving Self-Efficacy** *ISMAR 2023*
<https://www.computer.org/csdl/proceedings-article/ismar-adjunct/2023/289100a652/1SBHffHILL0>
Heyongyan He, Christopher Changmok Kim, **Yun Suen Pai**, Kouta Minamizawa
46. **Virtual Journalist: Measuring and Inducing Cultural Empathy by Visualizing Empathic Perspectives in VR** *ISMAR 2023*
<https://www.computer.org/csdl/proceedings-article/ismar-adjunct/2023/289100a667/1SBHdJ9ARvq>
Ana Alipass Fernandez, Christopher Changmok Kim, Tamil Selvan Gunasekaran, **Yun Suen Pai**, Kouta Minamizawa
47. **Heightened Empathy: A Multi-user Interactive Experience in a Bioresponsive Virtual Reality** *Siggraph 2023 Immersive Pavilion*
<https://dl.acm.org/doi/abs/10.1145/3588027.3595599>
Mark Armstrong, Kinga Skiers, Danyang Peng, Tamil Selvan Gunasekaran, Anish Kundu, Tanner Person, Yixin Wang, Kouta Minamizawa, **Yun Suen Pai**
48. **VRdoGraphy: An Empathic VR Photography Experience** *IEEEVR 2023*
<https://ieeexplore.ieee.org/abstract/document/10108725/>
Kunal Gupta, Yuwei Zhang, Tamil Selvan Gunasekaran, Prasanth Sasikumar, Nanditha Krishna, **Yun Suen Pai**, Mark Billinghurst
49. **The Empathic Metaverse: An Assistive Bioresponsive Platform for Emotional Experience Sharing** *CHI 2023 Workshop*
<https://doi.org/10.48550/arXiv.2311.16610>
Yun Suen Pai, Mark Armstrong, Kinga Skiers, Anish Kundu, Danyang Peng, Yixin Wang, Tamil Selvan Gunasekaran, Chi-Lan Yang, Kouta Minamizawa
50. **Inner self drawing machine** *Siggraph Asia 2022 Art Gallery*
<https://dl.acm.org/doi/abs/10.1145/3550470.3558429>

Qing Zhang, Fan Xie, Yifei Huang, **Yun Suen Pai**, George Chernyshov, Jing Huang, Xiongqi Wang, Jamie A Ward, Kai Kunze

51. **Transcendental Avatar: Experiencing Bioresponsive Avatar of the Self for Improved Cognition** *Siggraph Asia 2022 XR*
<https://dl.acm.org/doi/abs/10.1145/3550472.3558417>
Kinga Skiers, **Yun Suen Pai**, Kouta Minamizawa
52. **It's Me: VR-based Journaling for Improved Cognitive Self-Regulation** *Siggraph Asia 2022 Poster*
<https://dl.acm.org/doi/abs/10.1145/3550082.3564196>
Yixin Wang, **Yun Suen Pai**, Kouta Minamizawa
53. **HumanCopter: Wearable Drone System for Remote Multi-Directional Teleoperation** *ICAT 2022*
<https://diglib.org/handle/10.2312/egve20221296>
Keh Fei Wong, Lu Zhou, Ziyue Wang, Kouta Minamizawa, **Yun Suen Pai**
54. **asmVR: Light Triggers in Virtual Reality to Induce ASMR** *ICAT 2022*
<https://diglib.org/handle/10.2312/egve20221295>
Danyang Peng, Kouta Minamizawa, **Yun Suen Pai**
55. **PhysioSense Controller: Self-Actuating Button Based on Player Physiology for Improved Avatar Control** *ICAT 2022*
<https://diglib.org/handle/10.2312/egve20221298>
Ziyue Wang, Kouta Minamizawa, **Yun Suen Pai**
56. **Investigating the Relation Between Gender Expression of Mixed Reality Avatars and Sexuality of Male Users** *ISMAR 2022*
<https://ieeexplore.ieee.org/abstract/document/9974400>
Anish Kundu, **Yun Suen Pai**, Kouta Minamizawa
57. **PSCVR: Physiological Sensing in Collaborative Virtual Reality** *ISMAR 2022*
<https://ieeexplore.ieee.org/abstract/document/9974235>
Prasanth Sasikumar, **Yun Suen Pai**, Huidong Bai, Mark Billinghurst
58. **Experience Visual Impairment via Optical See-through Smart Glasses** *UIST 2022*
<https://programs.sigchi.org/uist/2022/index/content/85482>
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60. **RaTTIn: Radar-Based Identification for Tangible Interactions** *CHI 2022*
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Tamil Selvan Gunasekaran, Ryo Hajika, **Yun Suen Pai**, Eiji Hayashi, Mark Billinghurst
61. **GazeSync: Eye Movement Transfer Using an Optical Eye Tracker and Monochrome Liquid Crystal Displays** *IUI 2022*
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62. **WizardOfVR: An Emotion-Adaptive Virtual Wizard Experience** *Siggraph Asia 2021 XR*
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63. **Dementia Eyes: Perceiving Dementia with Augmented Reality** *Siggraph Asia 2021 XR*
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64. **Frisson Waves: Sharing Frisson to Create Collective Empathetic Experiences for Music Performances** *Siggraph Asia 2021 E-Tech*
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65. **BridgedReality: A Toolkit Connecting Physical and Virtual Spaces through Live Holographic Point Cloud Interaction** *Siggraph Asia 2021 Poster*
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66. **ARMixer: Live Stage Monitor Mixing through Gestural Interaction in Augmented Reality** *Siggraph Asia 2021 Poster*
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Weihan Huang, Stephanie Bourgeois, **Yun Suen Pai**, Kai Kunze, Kouta Minamizawa
67. **VRTwitch: Enabling Micro-motions in VR with Radar Sensing** *Siggraph Asia 2021 Poster*
<https://dl.acm.org/doi/abs/10.1145/3476124.3488650>
Ryo Hajika, Tamil Selvan Gunasekaran, Alaeddin Nassani, **Yun Suen Pai**, Mark Billinghurst
68. **Towards understanding physiological responses to emotional autobiographical memory recall in mobile vr scenarios** *MobileHCI 2021*
<https://dl.acm.org/doi/abs/10.1145/3447527.3474864>
Kunal Gupta, Sam W.T. Chan, **Yun Suen Pai**, Alexander Sumich, Suranga Nanayakkara, Mark Billinghurst
69. **Tactile music toolkit: supporting communication for autistic children with audio feedback** *IEEE World Haptics 2021*
<https://ieeexplore.ieee.org/abstract/document/9517267/>
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70. **Comado: Communication System for Ambient Connection between Distance Locations** *IEEE World Haptics 2021*
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71. **Adapting Fitts' Law and N-Back to Assess Hand Proprioception** *CHI 2021*
<https://dl.acm.org/doi/abs/10.1145/3411763.3451699>
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73. **AffectivelyVR: Towards VR Personalized Emotion Recognition** *VRST 2020*
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Kunal Gupta, Jovana Lazarevic, **Yun Suen Pai**, Mark Billinghurst
74. **MazeRunVR: An Open Benchmark for VR Locomotion Performance, Preference and Sickness in the Wild** *CHI 2020*
<https://dl.acm.org/doi/abs/10.1145/3334480.3383035>
Kirill Ragozin, Kai Kunze, Karola Marky, **Yun Suen Pai**
75. **HyperDrum: Interactive Synchronous Drumming in Virtual Reality using Everyday Objects** *Siggraph Asia 2019 XR*
<https://dl.acm.org/doi/abs/10.1145/3355355.3361894>
Ryo Hajika, Kunal Gupta, Prasant Sasikumar, **Yun Suen Pai**
76. **PanoFlex: Adaptive panoramic vision to accommodate 360 Field-of-view for humans** *VRST 2019*
<https://dl.acm.org/doi/abs/10.1145/3359996.3364767>
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<https://dl.acm.org/doi/abs/10.1145/3306214.3338597>
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78. **Virtual gaze: exploring use of gaze as rich interaction method with virtual agent in interactive virtual reality content** *VRST 2018*
<https://dl.acm.org/citation.cfm?id=3281587>
Stevanus Kevin, **Yun Suen Pai**, Kai Kunze
79. **UbiTrain: Leveraging the Physical and Virtual Environment for Ubiquitous Sports Training** *Ubicomp 2018*
<https://dl.acm.org/citation.cfm?id=3267646>
Yun Suen Pai, Takuro Nakao, Megumi Isogai, Hideaki Kimata, Kai Kunze
80. **Make-a-Face: A Hands-free, Non-Intrusive Device for Tongue/Mouth/Cheek Input Using EMG** *Siggraph 2018 Poster*
<https://dl.acm.org/citation.cfm?id=3230784>
Takuro Nakao, **Yun Suen Pai**, Megumi Isogai, Hideaki Kimata, Kai Kunze
81. **AnyOrbit: Orbital Navigation in virtual environments with eye-tracking** *ETRA 2018*
<https://dl.acm.org/citation.cfm?doid=3204493.3209579>
Benjamin I Outram, **Yun Suen Pai**, Tanner Person, Kouta Minamizawa, Kai Kunze
82. **face2faceVR: using AR to assist VR in ubiquitous environment usage** *Ubicomp 2017*
<https://dl.acm.org/citation.cfm?id=3123155>
Yun Suen Pai, Megumi Isogai, Daisuke Ochi, Hideaki Kimata, Kai Kunze
83. **GazeSphere: navigating 360-degree-video environments in VR using head rotation and eye gaze** *Siggraph 2017 Poster*
<https://dl.acm.org/citation.cfm?id=3102183>
Yun Suen Pai, Benjamin I Outram, Benjamin Tag, Megumi Isogai, Daisuke Ochi, Kai Kunze
84. **CleaVR: collaborative layout evaluation and assessment in virtual reality** *Siggraph 2017*
<https://dl.acm.org/citation.cfm?id=3102186>
Yun Suen Pai, Benjamin I Outram, Benjamin Tag, Megumi Isogai, Daisuke Ochi, Hideaki Kimata, Kai Kunze
85. **In360: A 360-degree-video platform to change students preconceived notions on their career** *CHI 2017*
<https://dl.acm.org/citation.cfm?doid=3027063.3053211>
Fathima Assilmia, **Yun Suen Pai**, Keiko Okawa, Kai Kunze
86. **A Major Challenge for Amplification Technologies - Designing Interactions for Social Spaces** *CHI 2017 Workshop*
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87. **Brain Activity Tracking Using Smart Eyewear** *CHI 2017 Workshop*
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88. **Initial Model of Social Acceptability for Human Augmentation Technologies** *CHI 2017 Workshop*
Chloe Eghtebas, **Yun Suen Pai**, Kaisa Väänänen, Thies Pfeiffer, Joachim Meyer, Stephan Lukosh
89. **Squint to Zoom: Augmenting our Sense of Vision with Zoom Caps** *CHI 2017*
<https://dl.acm.org/citation.cfm?doid=3027063.3053211>
George Chernyshov, **Yun Suen Pai**, Benjamin Tag, Kai Kunze
90. **Physiological Signal-Driven Virtual Reality in Social Spaces** *UIST 2016*
<https://dl.acm.org/citation.cfm?id=2984787>
Yun Suen Pai

91. **Transparent reality: Using eye gaze focus depth as interaction modality** *UIST 2016*
<https://dl.acm.org/citation.cfm?id=2984754>
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92. **AnyOrbit: Fluid 6DOF spatial navigation of virtual environments using orbital motion** *SUI 2016*
<https://dl.acm.org/citation.cfm?id=2989195>
 Benjamin I Outram, **Yun Suen Pai**, Kevin Fan, Kouta Minamizawa, Kai Kunze
93. **GazeSim: simulating foveated rendering using depth in eye gaze for VR** *Siggraph 2016 Poster*
<https://dl.acm.org/citation.cfm?id=2945153>
Yun Suen Pai, Benjamin Tag, Benjamin Outram, Noriyasu Vontin, Kazunori Sugiura, Kai Kunze

OTHER SERVICES

- Assistant Deputy Research for UoA School of Computer Science (2024 - present)
- Deputy PhD Coordinator for UoA School of Computer Science (2024 - present)
- New Staff Network Coordinator for UoA School of Computer Science (2024)
- Manage the Keio Media Design Project Room Facility (2021 - 2023)
- Co-organized Keio Media Design 2022 Plenary Meeting
- Collaborate with Mediva for publication [16,63] and patent filing 2021-141977.
- Collaborate with Google ATAP for publication [60, 67, 72]
- Collaborate with CSIRO Australia for publications [24, 26]
- Collaborate with Ignition Point for publications [23, 25, 76]
- Collaborate with NTT Media Intelligence Laboratories for publications [22, 28, 77, 79, 80, 82, 83, 84] and patent filing 2019-125855, 2018-141395, and 2017-137097
- Supervising Masters and PhD student (September 2015 - Current)
- Invited to conduct a workshop entitled "Virtual Reality: The What, Why and How" at the EDGEOf Workshop, Shibuya, Japan
- Invited to give a talk at the Department of Computer Science, National Chiao Tung University, Taiwan (November 2017)
- Invited to give a talk at Google X (May 2017)
- Organized a collaborative workshop between University of Malaya and Aerospace Malaysia Innovation Centre (AMIC) (December 2016 - January 2017)
- Collaborate with Fujitsu Design for publications [91, 93] (December 2015 - April 2016)
- Founded PaperOwl, a proof-reading service (July 2015 - February 2018)
- Developed an AR-based Drilling Simulator in collaboration with AirBus Malaysia (November 2014)
- Awarded for best National IMechE Student Chapter (October 2013)
- Dean List for a Semester (February 2013)
- Founded the Institute of Mechanical Engineers (IMechE) Student Chapter at the Faculty of Engineering, University of Malaya (June 2010 - July 2013)
- Participated in Robocon 2010 and 2011 (September 2010, August 2011)