Yun Suen Pai, Ph.D.

Auckland, New Zealand · yun.suen.pai@auckland.ac.nz · +6420-490-4477 ·
https://www.yunsuenpai.com

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 explores how **extended reality technologies can be leveraged to understand human cognition, assist diverse users and augment our abilities.**

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 — Auckland, New Zealand
Lecturer (tenured) — December 2023 | Current

- Co-direct the Empathic Computing Laboratory

Graduate School of Media Design, Keio University — Yokohama, Japan
Project Senior Assistant Professor (non-tenured) — 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 — Yokohama, Japan
Project Assistant Professor (non-tenured) — 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 — Auckland, New Zealand
Postdoctoral Research Fellow — June 2019 | March 2021

- Conduct Research in the Empathic Computing Laboratory

Graduate School of Media Design, Keio University — Yokohama, Japan
Researcher — October 2018 | March 2019

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

Graduate School of Media Design, Keio University — Yokohama, Japan
Research Assistant — August 2017 | September 2018

- Perform collaborative research and development with NTT Media Intelligence Laboratories

Faculty of Engineering, University of Malaya — Kuala Lumpur, Malaysia
Research Assistant — August 2013 | August 2015

- Conduct research and development on a project-basis

MK (M) Electric HoneyWell Sdn. Bhd. — Kuala Lumpur, Malaysia
Intern Trainee — 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

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 Vizor 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

- 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

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 — Google ATAP / University of Auckland
Grant amount: $100,000 for proposal entitled Multi-Scale, Multi-Radar Interactive System — January 2021

Ignition Point Collaboration Project — Ignition Point / Keio University
Grant amount: 5,000,000¥ for proposal entitled Increasing Human Field-of-View using Virtual Reality — April 2019

Keio Young Fellow Research program 2018 — Keio University
Grant amount: 500,000¥ for proposal entitled Convex Interactions: Physiological Signal-Driven Virtual Reality in Social Spaces — July 2018

Keio Grant-in-Aid program 2017 — Keio University
Grant amount: 500,000¥ for proposal entitled Physiological Signal-Driven Virtual Reality in Social Spaces — July 2017

Keio Kenkyuu no Susume program 2017 — Keio University
Grant amount: 700,000¥ for proposal entitled Physiological Signal-Driven Virtual Reality in Social Spaces — July 2017

Keio Grant-in-Aid program 2016 Keio University
Grant amount: 300,000¥ for proposal entitled Physiological Sensing-Based Virtual Reality June 2016

Keio Kenkyuu no Susume program 2016 Keio University
Grant amount: 500,000¥ for proposal entitled Physiological Sensing-Based Virtual Reality June 2016

Keio Young Fellow Research program 2016 Keio University
Grant amount: 500,000¥ for proposal entitled Physiological Sensing-Based Virtual Reality 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

1. **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

2. **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

3. **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

4. **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

5. **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 Dingler, Kai Kunze

6. **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

7. **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**

8. **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

9. **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

10. **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

11. **Dementia Eyes: Co-Design and Evaluation of a Dementia Education Augmented Reality Experience for Medical Workers** *to appear in 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

12. **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

13. **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

14. **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

15. **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

16. **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

17. **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**

18. **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**

19. **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

20. **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**

21. **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

22. **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

23. **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

24. **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

25. **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

26. **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**

27. **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

28. **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

29. **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**

30. **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**

31. **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**

32. **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**

33. **Project Corvus: A Virtual Reality Horror Tool for Improving Self-Efficacy** *ISMAR 2023*
https://www.computer.org/csdl/proceedings-article/ismar-adjunct/2023/289100a652/1SBHffHILLO
Heyongyan He, Christopher Changmok Kim, **Yun Suen Pai**, Kouta Minamizawa

34. **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

35. **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**

36. **VRdoGraphy: An Empathic VR Photography Experience** *IEEEVR 2023*
https://ieeexplore.ieee.org/abstract/document/10108725/
Kunal Gupta, Yuewei Zhang, Tamil Selvan Gunasekaran, Prasanth Sasikumar, Nanditha Krishna, **Yun Suen Pai**, Mark Billinghurst

37. **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

38. **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

39. **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

40. **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

41. **HumanCopter: Wearable Drone System for Remote Multi-Directional Teleoperation** *ICAT 2022*
https://diglib.eg.org/handle/10.2312/egve20221296
Keh Fei Wong, Lu Zhou, Ziyue Wang, Kouta Minamizawa, **Yun Suen Pai**

42. **asmVR: Light Triggers in Virtual Reality to Induce ASMR** *ICAT 2022*
https://diglib.eg.org/handle/10.2312/egve20221295
Danyang Peng, Kouta Minamizawa, **Yun Suen Pai**

43. **PhysioSense Controller: Self-Actuating Button Based on Player Physiology for Improved Avatar Control** *ICAT 2022*
https://diglib.eg.org/handle/10.2312/egve20221298
Ziyue Wang, Kouta Minamizawa, **Yun Suen Pai**

44. **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

45. **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

46. **Experience Visual Impairment via Optical See-through Smart Glasses** *UIST 2022*
https://programs.sigchi.org/uist/2022/index/content/85482
Qing Zhang, Xiongqi Wang, Thad Starner, Yifei Huang, George Chernyshov, Giulia Barbareschi,**Yun Suen Pai**, Jing Huang, Junichi Yamaoka, Jamie A Ward, Kai Kunze

47. **SpiceWare: Simulating Spice Using Thermally Adjustable Dinnerware to Bridge Cultural Gaps** *UIST 2022*
https://dl.acm.org/doi/abs/10.1145/3526114.3558701
Shunyi Yang, **Yun Suen Pai**, Kouta Minamizawa

48. **RaITIn: Radar-Based Identification for Tangible Interactions** *CHI 2022*
https://dl.acm.org/doi/abs/10.1145/3491101.3519808
Tamil Selvan Gunasekaran, Ryo Hajika, **Yun Suen Pai**, Eiji Hayashi, Mark Billinghurst

49. **GazeSync: Eye Movement Transfer Using an Optical Eye Tracker and Monochrome Liquid Crystal Displays** *IUI 2022*
https://dl.acm.org/doi/abs/10.1145/3490100.3516469
Qing Zhang, Yifei Huang, George Chernyshov, Juling Li, **Yun Suen Pai**, Kai Kunze

50. **WizardOfVR: An Emotion-Adaptive Virtual Wizard Experience** *Siggraph Asia 2021 XR*
https://dl.acm.org/doi/abs/10.1145/3478514.3487628
Kunal Gupta, Yuewei Zhang, **Yun Suen Pai**, Mark Billinghurst

51. **Dementia Eyes: Perceiving Dementia with Augmented Reality** *Siggraph Asia 2021 XR*
https://dl.acm.org/doi/abs/10.1145/3478514.3487617
Ximing Shen, **Yun Suen Pai**, Dai Kiuchi, Kanoko Oishi, Kehan Bao, Tomomi Aoki, Kouta Minamizawa

52. **Frisson Waves: Sharing Frisson to Create Collective Empathetic Experiences for Music Performances** *Siggraph Asia 2021 E-Tech*
https://dl.acm.org/doi/abs/10.1145/3478514.3487617
Yan He, George Chernyshov, Dingding Zheng, Jiawen Han, Ragnar Thomsen, Danny Hynds, Yuehui Yang, **Yun Suen Pai**, Kai Kunze, Kouta Minamizawa

53. **BridgedReality: A Toolkit Connecting Physical and Virtual Spaces through Live Holographic Point Cloud Interaction** *Siggraph Asia 2021 Poster*
https://dl.acm.org/doi/abs/10.1145/3476124.3488656
Mark Armstrong, Lawrence Quest, **Yun Suen Pai**, Kai Kunze, Kouta Minamizawa

54. **ARMixer: Live Stage Monitor Mixing through Gestural Interaction in Augmented Reality** *Siggraph Asia 2021 Poster*
https://dl.acm.org/doi/abs/10.1145/3476124.3488632
Weihan Huang, Stephanie Bourgeois, **Yun Suen Pai**, Kai Kunze, Kouta Minamizawa

55. **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

56. **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

57. **Tactile music toolkit: supporting communication for autistic children with audio feedback** *IEEE World Haptics 2021*
https://ieeexplore.ieee.org/abstract/document/9517267/
Di Qi, Danny Hynds, Mina Shibasaki, **Yun Suen Pai**, Kouta Minamizawa

58. **Comado: Communication System for Ambient Connection between Distance Locations** *IEEE World Haptics 2021*
https://ieeexplore.ieee.org/abstract/document/9517203
Fuko Yamamura, Taku Tanichi, **Yun Suen Pai**, Kouta Minamizawa

59. **Adapting Fitts' Law and N-Back to Assess Hand Proprioception** *CHI 2021*
https://dl.acm.org/doi/abs/10.1145/3411763.3451699
Tamil Selvan Gunasekaran, Ryo Hajika, Chloe Dolma Si Ying Haigh, **Yun Suen Pai**, Danielle Lottridge, Mark Billinghurst

60. **Radarmin: A Radar-Based Mixed Reality Theremin Setup** *ISMAR 2020*
https://ismar20.org/demonstrations/
Ryo Hajika, Prasanth Sasikumar, Amit Barde, **Yun Suen Pai**, Eiji Hayashi, Mark Billinghurst

61. **AffectivelyVR: Towards VR Personalized Emotion Recognition** *VRST 2020*
https://dl.acm.org/doi/abs/10.1145/3385956.3422122
Kunal Gupta, Jovana Lazarevic, **Yun Suen Pai**, Mark Billinghurst

62. **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**

63. **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**

64. **PanoFlex: Adaptive panoramic vision to accommodate 360 Field-of-view for humans** *VRST 2019*
https://dl.acm.org/doi/abs/10.1145/3359996.3364767
Feng Liang, Stevanus Kevin, Kai Kunze, **Yun Suen Pai**

65. **ShareHaptics: a modular haptic feedback system using shape memory alloy for mixed reality shared space applications** *Siggraph 2019 Poster*
https://dl.acm.org/doi/abs/10.1145/3306214.3338597
Takuro Nakao, Stevanus Kevin, Megumi Isogai, Shinya Shimizu, Hideaki Kimata, Kai Kunze, **Yun Suen Pai**

66. **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

67. **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

68. **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

69. **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

70. **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

71. **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

72. **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

73. **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

74. **A Major Challenge for Amplification Technologies - Designing Interactions for Social Spaces** *CHI 2017 Workshop*
Yun Suen Pai, Benjamin Tag, George Chernyshov, Kai Kunze

75. **Brain Activity Tracking Using Smart Eyewear** *CHI 2017 Workshop*
George Chernyshov, Benjamin Tag, **Yun Suen Pai**, Kai Kunze

76. **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

77. **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

78. **Physiological Signal-Driven Virtual Reality in Social Spaces** *UIST 2016*
https://dl.acm.org/citation.cfm?id=2984787
Yun Suen Pai

79. **Transparent reality: Using eye gaze focus depth as interaction modality** *UIST 2016*
https://dl.acm.org/citation.cfm?id=2984754
Yun Suen Pai, Benjamin Outram, Noriyasu Vontin, Kai Kunze

80. **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

81. **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

- Manage the Keio Media Design Project Room Facility (2021 to 2023)
- Co-organized Keio Media Design 2022 Plenary Meeting
- Collaborate with Mediva for publication [11,51] and patent filing 2021-141977.

- Collaborate with Google ATAP for publication [48, 55, 60]
- Collaborate with CSIRO Australia for publications [19, 21]
- Collaborate with Ignition Point for publications [18, 20, 64]
- Collaborate with NTT Media Intelligence Laboratories for publications [17, 23, 65, 67, 68, 70, 71, 72] 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 [79, 81] (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)