

# YUN SUEN PAI, PH.D.

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## AREAS OF EXPERTISE

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

## WORK EXPERIENCE

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### Graduate School of Media Design, Keio University

*Project Senior Assistant Professor*

Yokohama, Japan

May 2022 | Current

- 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*

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

*Employed 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

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### Keio University

Ph.D. Media Design

Yokohama, Japan

September 2015 - September 2018

Thesis: Convex Interactions: Towards Efficient Human Motion In Peripersonal Space Using Virtual Reality

### University of Malaya

Masters Engineering Science

Kuala Lumpur, Malaysia

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)

BS Computer Aided Design and Manufacturing Engineering

Kuala Lumpur, Malaysia

July 2009 - July 2013

Thesis: Augmented Reality-Based Programming, Planning, and Simulation of a Robotic Work Cell

## TEACHING EXPERIENCE

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### Keio University

- Research Methodology for Science and Engineering (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)

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### PROFESSIONAL RESEARCH ACTIVITIES

- Paper reviewer for ISWC 2017, IMWUT (UbiComp) 2017, MobileHCI 2017, PervasiveHealth 2017, ISMAR 2018-2020, ISWC 2018, IMWUT (UbiComp) 2018, Siggraph Asia 2018 Emerging Technologies, MUM 2018 (PC member), TEI 2019, Transactions on Fuzzy Systems, Plos One, Frontiers Psychology, ACM Computing Surveys, IEEE Access, Transactions on Neural Systems & Rehabilitation Engineering, CHI 2019-2023, IMWUT (UbiComp) 2019, ISWC 2019, MobileHCI 2019, VRST 2019-2020, IEEEVR 2019 & 2021, UIST 2020, AH 2020, OZCHI 2020.
- 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, Augmented Humans 2023, ICAT-EGVE 2022 Publicity
- 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.

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### AWARDS

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| <b>Runner up for Healthy Aging Prize for Asian Innovation</b>   | HAPI 2022                              |
| Dementia Eyes: Experiencing Dementia through AR   | September 2022                         |
| <b>Runner up for Best Technical XR Demo</b>   | Siggraph Asia 2019 XR                  |
| HyperDrum: Interactive Synchronous Drumming in Virtual Reality using Everyday Objects                       | November 2019                          |
| <b>Best Poster Award</b>  | SUI 2017                               |
| AnyOrbit: Fluid 6DOF spatial navigation of virtual environments using orbital motion                        | October 2016                           |
| <b>AUN/SEED-Net Full Scholarship</b>  | Japan International Cooperation Agency |
| Full scholarship for Ph.D. program  | September 2015                         |
| <b>Best Presentation</b>  | ICMST 2014                             |
| Implementation of a Voice-Control System for Issuing Commands in a Virtual Manufacturing Simulation Process | June 2014                              |
| <b>MyBrain15 MyMaster Scholarship</b>   | Ministry of Higher Education Malaysia  |
| Full scholarship for Masters program  | August 2013                            |
| <b>Institution Best Project</b>   | Institution of Mechanical Engineers UK |

Augmented Reality Based  
Programming, Planning, and Simulation of a Robotic  
Work Cell

August 2013

**Best Undergraduate Thesis Award**  
Best Undergraduate thesis at CAD/M Engineering

Faculty of Engineering, University of Malaya  
June 2013

#### GRANTS AND FUNDINGS

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**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

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**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

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1. **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

2. **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

3. **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

4. **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

5. **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

6. **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

7. **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

8. **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

9. **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

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CONFERENCE PUBLICATIONS

10. **Dementia Eyes: Co-Design and Evaluation of a Dementia Education Augmented Reality Experience for Medical Workers** *to appear in CHI 2023*

Ximing Shen, Yun Suen Pai, Dai Kiuchi, Kehan Bao, Tomomi Aoki, Hikari Meguro, Kanoko Oishi, Ziyue Wang, Sohei Wakisaka, Kouta Minamizawa

11. **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

12. **Furekit: Wearable Tactile Music Toolkit for Children with ASD** *EuroHaptics 2022*

[https://link.springer.com/chapter/10.1007/978-3-031-06249-0\\_35](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

13. **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
14. **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
15. **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
16. **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
17. **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
18. **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
19. **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
20. **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
21. **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
22. **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
23. **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
24. **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
25. **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
26. **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

27. **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

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POSTER, DEMO, AND WORKSHOP PUBLICATIONS

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28. **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
29. **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
30. **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
31. **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
32. **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
33. **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
34. **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
35. **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 Barbaresch, Yun Suen Pai, Jing Huang, Junichi Yamaoka, Jamie A Ward, Kai Kunze
36. **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
37. **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
38. **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
39. **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

40. **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
41. **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
42. **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
43. **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>  
Weiham Huang, Stephanie Bourgeois, Yun Suen Pai, Kai Kunze, Kouta Minamizawa
44. **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
45. **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
46. **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
47. **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
48. **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
49. **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
50. **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
51. **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
52. **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

53. **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
54. **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
55. **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
56. **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
57. **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
58. **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
59. **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
60. **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
61. **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
62. **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
63. **A Major Challenge for Amplification Technologies - Designing Interactions for Social Spaces** *CHI 2017 Workshop*  
Yun Suen Pai, Benjamin Tag, George Chernyshov, Kai Kunze
64. **Brain Activity Tracking Using Smart Eyewear** *CHI 2017 Workshop*  
George Chernyshov, Benjamin Tag, Yun Suen Pai, Kai Kunze
65. **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
66. **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



67. **Physiological Signal-Driven Virtual Reality in Social Spaces** *UIST 2016*  
<https://dl.acm.org/citation.cfm?id=2984787>  
 Yun Suen Pai
68. **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
69. **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
70. **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

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#### OTHER SERVICES

- Manage the Keio Media Design Project Room Facility (2021 to current)
- Co-organized Keio Media Design 2022 Plenary Meeting
- Collaborate with Mediva for publication [40]
- Collaborate with Google ATAP for publication [37, 44, 49]
- Collaborate with CSIRO Australia for publications [18, 20]
- Collaborate with Ignition Point for publications [17, 19, 53]
- Collaborate with NTT Media Intelligence Laboratories for publications [16, 22, 54, 56, 57, 59, 60, 61] and patent filing (September 2016 - April 2017, September 2017 - February 2018, July 2018 - September 2018)
- 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 [68, 70] (December 2015 - April 2016)
- Started 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)