Rong-Hao Liang — Curriculum Vitae

in rong-hao-liang-33275351
Google Scholar: scholar.google.com/citations?user=oggdMKcAAAAJ

Biography

Dr. Rong-Hao Liang is an assistant professor at Eindhoven University of Technology, holding joint appointments in the Department of Industrial Design and the Department of Electrical Engineering. He is also a member of Eindhoven AI Systems Institute, Eindhoven MedTech Innovation Center, and ACM SIGCHI. His research focuses on sensing systems and user interface technology for ubiquitous computing and human-computer interaction. Dr. Liang has authored over 80 research publications and holds several hardware patents.

Expertise

Areas: User Interface; Computational Fabrication; Sensing Systems; Tangible and Embodied Interaction; Applied Machine Learning; User-Centered Design.

Experience

TU Eindhoven, The Netherlands
Senior Assistant Professor (Tenured) *2016–Present*
Departments of Industrial Design and Electrical Engineering

GaussToys Inc., Taiwan
Co-Founder & Advisory Board Member *2015–2020*

Intel-NTU IoX Center, Taiwan
Assistant Research Fellow *2014–2016*

Academia Sinica, Taiwan
Research Assistant *2010–2014*

Education

National Taiwan University, Taiwan
Ph.D., Computer Science *2011–2014*
Advisor: Prof. Bing-Yu Chen

National Taiwan University, Taiwan
M.S., Electrical Engineering *2008–2010*
Advisor: Prof. Sy-Yen Kuo

Chang Gung University, Taiwan
B.S., Computer Science *2003–2007*

Selected Professional Services

Conference Organizer

- ACM TEI 2026 – Conference Posters Program Co-Chair
- ACM EICS 2021 – Conference Papers Program Co-Chair
- CHIIoT Workshop Series 2021 – General Co-Chair
- ACM DIS 2020 – Conference Demos Co-Chair
- ACM MobileHCI 2019 – Conference Posters Program Co-Chair
- TU/e Unconventional Computing Symposium 2019 – Program Co-Chair
- DeSForM 2017 – Conference Papers Program Co-Chair
- ACM UIST 2016 – Conference Publicity Chair

Technical Program Committee Member

- ACM CHI Conference Papers (2020, 2021, 2022, 2023, 2024, 2025)
- ACM UIST Conference Papers (2017, 2020, 2023, 2024)
- ACM DIS Conference Papers (2024, 2025)

- ACM SCF Conference Papers (2024)
- ACM TEI Conference Papers (2018, 2019) and Work-In-Progress (2017)

Selected Grants and Awards

Research and Teaching Grants

- **EWUU Unconventional Collaboration Seed Grant**, 2024. Co-PI. *3HOWs4DM: Enhancing Culturally Tailored Diabetes Management: Addressing Mental Health for Minor Ethnic Backgrounds*, EWUU Unconventional Collaboration Center, The Netherlands.
- **EWUU Preventive Healthcare Grant**, 2024. Co-PI. *Remote Monitoring of Food-Intake of Older Cardiometabolic Patients in Home Environment (CardioWatch)*, EWUU Institute for Preventive Healthcare (i4PH), The Netherlands.
- **EuroTech PhD Grant**, 2023. PI. *Designing Embodied Sensing Systems for Preventive Healthcare*, EuroTech Universities Alliance, The Netherlands.
- **ZonMW Open Competition Grant**, 2023. Co-PI. *Genito-pelvic pain: Towards a Biopsychosocial, Ecologically Valid Research and Treatment Model*, Netherlands Organisation for Health Research and Development (ZonMw), The Netherlands.
- **4TU.NIRICT Community Grant**, 2022. PI. *Human-Centered Sustainable IoT*, Netherlands Organisation for Health Research and Development (4TU.NIRICT), The Netherlands.
- **Boost! Innovation Grant**, 2021. PI. *TAHOE: Take-Away Hands-On Education*, TU Eindhoven, The Netherlands.
- **4TU.NIRICT Community Grant**, 2021. PI. *Self-Sustainable Computing*, Netherlands Institute for Research on ICT (4TU.NIRICT), The Netherlands.
- **Boost! Innovation Grant**, 2019. PI. *Emerging User Interface Technologies*, TU Eindhoven, The Netherlands.
- **Boost! Innovation Grant**, 2019. PI. *Interactive Intelligent Products in MOOCs*, TU Eindhoven, The Netherlands.

Academic and Entrepreneur Awards

- **UIST 2021 Best Demo Honorable Mention**. *OpenNFCSense: Open-Source Library for NFCSense*, ACM UIST 2021.
- **DIS 2020 Best Paper Honorable Mention**. *FabriClick: Interweaving Pushbuttons into Fabrics Using 3D Printing and Digital Embroidery*, ACM DIS 2020.
- **UIST 2016 Best Talk Award**. *CircuitStack: Supporting Rapid Prototyping and Evolution of Electronic Circuits*, ACM UIST 2016.
- **Outstanding Ph.D. Thesis Award**, 2015. Institute of Information & Computing Machinery (IICM), Taiwan.
- **First Prize**, 2014. *4th FITI Entrepreneur Competition (USD 85K Cash Prize)*, GaussToys, MOST, Taiwan.
- **First Prize**, 2014. *8th Long-Term Entrepreneur Competition (USD 65K Cash Prize)*, GaussToys, Acer.
- **CHI 2014 Best Paper Honorable Mention**. *GaussBricks: Magnetic Building Blocks for Constructive Tangible Interactions on Portable Displays*, ACM CHI 2014.
- **CHI 2014 People's Choice Best Talk Award**. *GaussBricks: Magnetic Building Blocks for Constructive Tangible Interactions on Portable Displays*, ACM CHI 2014.
- **CHI 2013 Best Paper Award**. *NailDisplay: Bringing Always-Available Visual Display To Fingertips*, ACM CHI 2013.
- **SIGGRAPH Asia 2012 Emerging Technologies Prize**. *GaussBrush: Drawing with Magnetic Stylus*, ACM SIGGRAPH Asia 2012.
- **Second Prize**, 2012. *7th Long-Term Entrepreneur Competition (USD 32K Cash Prize)*, ArmTech, Acer.

Peer-Reviewed Publications

★ Highlighted items are Full Papers published in First-Tier International Conference Proceedings (acceptance rate 20-30%) or SJR Q1 Journals. Underlined authors are myself or postdoc researchers, PhD students, master's students, and bachelor's students at TU Eindhoven under my direct supervision.

82. ★ Hangcheng Yang, Yuan-An Chan, Bin Yu, Yi-Ping Hung, Panos Markopoulos, Rong-Hao Liang. 2025. *MindFlow: Breathing-Integrated Progressive Muscle Relaxation with a Full-Body Self-Avatar in Virtual Reality*. Proceedings of ACM DIS 2025: ACM SIGCHI Conference on Designing Interactive Systems, 16 pages, Funchal, Madeira.

81. Hannah van Iterson, Rong-Hao Liang, Panos Markopoulos. 2025. *Redesigning Fluid Tracking Probes for Elderly Lifestyle Retrofit*. Work-In-Progress of ACM TEI 2025: ACM Tangible, Embedded and Embodied Interaction Conference, pp. 61:1–61:6.

80. Senna van den Bogaard, Timo Maessen, Evelijn van Hilten, Yinshi Jin, Hannah van Iterson, Steven Houben, Rong-Hao Liang. 2025. *CrowdCollab: A Multi-user, Multi-perspective Collaborative Tool for Crowd Planning*. Work-In-Progress of ACM TEI 2025: ACM Tangible, Embedded and Embodied Interaction Conference, pp. 73:1–73:7.

79. Xiaoyu Wang, Hannah van Iterson, S. Sandra Bae, Rong-Hao Liang. 2025. *Reflecting on Solo Dining Behavior with*

Annotated Data Physicalization. Work-In-Progress of ACM TEI 2025: ACM Tangible, Embedded and Embodied Interaction Conference, pp. 77:1–77:8.

78. Loe Feijs, Rong-Hao Liang, Holly Krueger, Marina Toeters. 2025. *Holomorphic Mappings for Integrated Garment and Motif Design*. Proceedings of Bridges 2025, 8 pages, Eindhoven, the Netherlands.

77. ★ Rong-Hao Liang, Hannah van Iterson, Holly Krueger, Marina Toeters, Loe Feijs. 2024. *Chic-Marker: Fashionably Fusing Fiducial Markers into Apparel and Accessories*. Proceedings of ACM SCF 2024: ACM Symposium on Computational Fabrication, 15 pages, Aarhus, Denmark.

76. ★ Zheng Peng, Yidan Zhao, Deedee Kommers, Henrie van den Boon, Rong-Hao Liang, Xi Long, Hendrik J. Niemarkt, Peter Andriessen, Carola van Pul. 2024. *Continuous Movement Quantification in Preterm Infants Using Fiber Mat: Advancing Long-Term Monitoring in Hospital Settings*. IEEE TIM Journal: IEEE Transactions on Instrumentation and Measurement, 10 pages, Jan 2024.

75. Rong-Hao Liang, Holly Krueger, Marina Toeters, Loe Feijs. 2024. *AR Markers Meet Fashion*. Proceedings of Bridges 2024, Richmond, VA, USA.

74. Chi-Huan Chiang, Bing-Yu Chen, Rong-Hao Liang. 2024. *Efficient Fabrication Workflow for NFC-Based Identifiable Building Blocks*. Demos of ACM SCF 2024: ACM Symposium on Computational Fabrication, 3 pages, Aarhus, Denmark.

73. ★ Mengru Xue, Pengcheng An, Rong-Hao Liang, Zengrong Guo, Jun Hu, Preben Hansen, Loe Feijs. 2023. *Co-constructing Stories Based on Users' Lived Experiences to Investigate Visualization Design for Collective Stress Management*. Proceedings of ACM DIS 2023: ACM SIGCHI Conference on Designing Interactive Systems, 12 pages, Pittsburgh, PA, USA.

72. ★ Zengrong Guo, Rong-Hao Liang. 2023. *TexonMask: Facial Expression Recognition Using Textile Electrodes on Commodity Facemasks*. Proceedings of ACM CHI 2023: ACM SIGCHI Conference on Human Factors in Computing Systems, 15 pages, Hamburg, Germany.

71. ★ Zheng Peng, Deedee Kommers, Rong-Hao Liang, Xi Long, Ward Cottaar, Hendrik J. Niemarkt, Peter Andriessen, Carola van Pul. 2023. *Continuous Sensing and Quantification of Body Motion in Infants: A Systematic Review*. Cell Heliyon Journal: Vol. 9, Issue 7, E18234, 15 pages, July 2023.

70. Zheng Peng, Dandan Zhang, Carola van Pul, Rong-Hao Liang, Ronald M. Arts, Xi Long. 2023. *Improving video-based actigraphy for sleep monitoring of preterm infants*. Proceedings of IEEE HealthCom 2023: 2023 IEEE International Conference on E-health Networking, Application & Services, 10 pages.

69. ★ Zheng Peng, Gabriele Varisco, Xi Long, Rong-Hao Liang, Deedee Kommers, Ward Cottaar, Peter Andriessen, Carola van Pul. 2022. *A Continuous Late-Onset Sepsis Prediction Algorithm for Preterm Infants Using Multi-channel Physiological Signals from a Patient Monitor*. IEEE JBHI Journal: IEEE Journal of Biomedical and Health Informatics, Oct 2022, 12 pages.

68. ★ Chi-Jung Lee, Rong-Hao Liang, Ling-Chien Yang, Chi-Huan Chiang, Te-Yen Wu, Bing-Yu Chen. 2022. *NFCStack: Identifiable Physical Building Blocks that Support Concurrent Construction and Frictionless Interaction*. Proceedings of ACM UIST 2022: ACM User Interface Software and Technology Symposium, 12 pages, Bend, OR, USA.

67. ★ Huizhong Ye, Chi-Jung Lee, Te-Yen Wu, Xing-Dong Yang, Bing-Yu Chen, Rong-Hao Liang. 2022. *Body-Centric NFC: Body-Centric Interaction with NFC Devices Through Near-Field Enabled Clothing*. Proceedings of ACM DIS 2022: ACM SIGCHI Conference on Designing Interactive Systems, 14 pages, Virtual Event.

66. Mengru Xue, Rong-Hao Liang, Jun Hu, Bin Yu, Loe M. G. Feijs. 2022. *Understanding How Group Workers Reflect on Organizational Stress with a Shared, Anonymous Heart Rate Variability Data Visualization*. Case Studies of ACM CHI 2022: ACM SIGCHI Conference on Human Factors in Computing Systems, 11 pages.

65. Huizhong Ye, Charlaine Janssen, Daan Noordman, Rong-Hao Liang. 2021. *Understanding How to Support Remote Co-Design with a Conceptual Modular Shape-Changing Interface Toolkit*. Work-In-Progress of ACM TEI 2022: ACM Tangible, Embedded and Embodied Interaction Conference, 6 pages.

64. ★ Rong-Hao Liang, Zengrong Guo. 2021. *NFCSense: Data-Defined Rich-ID Motion Sensing for Fluent Tangible Interaction Using a Commodity NFC Reader*. Proceedings of ACM CHI 2021: ACM SIGCHI Conference on Human Factors in Computing Systems, 14 pages, Yokohama, Japan.

63. ★ Chin-Yuan Lu, Han-Wei Hsieh, Rong-Hao Liang, Chi-Jung Lee, Ling-Chien Yang, Mengru Xue, Jr-Ling Guo, Meng-Ju Hsieh, Bing-Yu Chen. 2021. *Combining Touchscreens with Passive Rich-ID Building Blocks to Support Context*

Construction in Touchscreen Interactions. Proceedings of ACM CHI 2021: ACM SIGCHI Conference on Human Factors in Computing Systems, 14 pages, Yokohama, Japan.

62. Rong-Hao Liang. 2021. *OpenNFCSense: Open-Source Library for NFCSense*. Demos of ACM UIST 2021: ACM Symposium on User Interface Software and Technology, 3 pages. [ACM UIST 2021 Best Demo Honorable Mention]

61. Zheng Peng, Ilde Lorato, Xi Long, Rong-Hao Liang, Deedee Kommers, Peter Andriessen, Eduardus Cottaar, Sander Stuijk, Carola van Pul. 2021. *Body Motion Detection in Neonates Based on Motion Artifacts in Physiological Signals from a Clinical Patient Monitor*. Proceedings of IEEE EMBC 2021: 43rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 4 pages.

60. Verindi Vekemans, Ward Leenders, Sijie Zhu, Rong-Hao Liang. 2021. *MOTUS: Rendering Emotions with a Wrist-worn Tactile Display*. Proceedings of ACM ISWC 2021: ACM Symposium on Wearable Computers, 3 pages.

59. Yōko Miyatake, Rong-Hao Liang, Bing-Yu Chen, Itiro Siio. 2021. *FieldSweep: A 2D Tracking System With Embedded Magnets and a Smartphone*. Late-Breaking-Work of ACM CHI 2021: ACM SIGCHI Conference on Human Factors in Computing Systems, 6 pages, Yokohama, Japan.

58. Huizhong Ye, Zengrong Guo, Rong-Hao Liang. 2021. *Asynchronous Co-Dining: Enhancing the Intimacy in Remote Co-Dining Experience Through Audio Recordings*. Work-In-Progress of ACM TEI 2021: ACM Tangible, Embedded and Embodied Interaction Conference, 6 pages, Salzburg, Austria.

57. ★ Maas Goudswaard, Abel Abraham, Bruna Goveia da Rocha, Kristina Andersen, Rong-Hao Liang. 2020. *FabriClick: Interweaving Pushbuttons into Fabrics Using 3D Printing and Digital Embroidery*. Proceedings of ACM DIS 2020: ACM SIGCHI Conference on Designing Interactive Systems, pp. 379–393, Eindhoven, the Netherlands.

56. ★ Annemiek Veldhuis, Rong-Hao Liang, Tilde Bekker. 2020. *CoDa: Collaborative Data Interpretation Through an Interactive Tangible Scatterplot*. Proceedings of ACM TEI 2020: ACM SIGCHI Conference on Tangible, Embedded, and Embodied Interaction, pp. 323–336, Sydney, Australia.

55. Siti Aisyah binti Anas, Rong-Hao Liang, Jun Hu, Matthias Rauterburg. 2020. *Designing Proactive Objects with Artificial Eyes Based on Perceptual Crossing Paradigm*. Proceedings of IEEE RO-MAN 2020: International Conference on Robot & Human Interactive Communication, 8 pages, Naples, Italy.

54. Wouter van der Woude, Daniel Tetteroo, Rong-Hao Liang. 2020. *Presley: Designing Non-Obtrusive Tactile Rhythmic Wearable Devices for Improving Speech Fluency*. Work-In-Progress of DIS 2020: ACM Designing Interactive Systems Conference, 7 pages, Eindhoven, the Netherlands.

53. Tyana Hendriksma, Joanne Maartense, Rosanne de Feyter, Rong-Hao Liang, Loe Feijs. 2020. *Designing Interactive Clothing to Raise Awareness of and Comfort the Wearer Suffering from Anxiety*. Work-In-Progress of DIS 2020: ACM Designing Interactive Systems Conference, 5 pages, Eindhoven, the Netherlands.

52. ★ Meng-Ju Hsieh, Jr-Ling Guo, Chin-Yuan Lu, Han-Wei Hsieh, Rong-Hao Liang, Bing-Yu Chen. 2019. *RFTouchPads: Batteryless and Wireless Modular Touch Sensor Pads Based on RFID*. Proceedings of ACM UIST 2019: ACM User Interface Software and Technology Symposium, pp. 999–1011, New Orleans, LA, USA.

51. ★ Rong-Hao Liang, Shun-Yao Yang, Bing-Yu Chen. 2019. *InDexMo: Exploring Finger-Worn RFID Motion Tracking for Activity Recognition on Tagged Objects*. Proceedings of ACM ISWC 2019: International Symposium on Wearable Computers, pp. 129–134, London, UK.

50. ★ Mengru Xue, Rong-Hao Liang, Bin Yu, Mathias Funk, Jun Hu, Loe M.G. Feijs. 2019. *AffectiveWall: Collective Stress-Related Physiological Data Visualization for Reflection*. IEEE Access Journal, pp. 131289–131303.

49. ★ Rong-Hao Liang, Meng-Ju Hsieh, Jheng-You Ke, Jr-Ling Guo, Bing-Yu Chen. 2018. *RFIMatch: Batteryless, Distributed Near-Field Identification Using RFID-Tagged Magnet-biased Reed Switches*. Proceedings of ACM UIST 2018: ACM User Interface Software and Technology Symposium, pp. 473–483, Berlin, Germany.

48. ★ Rong-Hao Liang, Bin Yu, Mengru Xue, Jun Hu, Loe M.G. Feijs. 2018. *BioFidget: Biofeedback for Respiration Training Using an Augmented Fidget Spinner*. Proceedings of ACM CHI 2018: ACM SIGCHI Conference on Human Factors in Computing Systems, Article 613, 12 pages, Montreal, Canada.

47. ★ Meng-Ju Hsieh, Rong-Hao Liang, Da-Yuan Huang, Jheng-You Ke, Bing-Yu Chen. 2018. *RFIBricks: Interactive Building Blocks Based on RFID*. Proceedings of ACM CHI 2018: ACM SIGCHI Conference on Human Factors in Computing Systems, Article 189, 10 pages, Montreal, Canada.

46. ★ Bin Yu, Jun Hu, Mathias Funk, Rong-Hao Liang, Mengru Xue, Loe M.G. Feijs. 2018. *REsonance: Lightweight, Room-Scale Audio-Visual Biofeedback for Immersive Relaxation Training*. IEEE Access Journal, pp. 38336–38347.

45. Meng-Ju Hsieh, Rong-Hao Liang, Jr-Ling Guo, Bing-Yu Chen. 2018. *RFIDesk: An Interactive Surface for Multi-Touch and Rich-ID Stackable Tangible Interactions*. ACM SIGGRAPH Asia 2018: Emerging Technologies Demo, Tokyo, Japan.

44. Rong-Hao Liang, Bin Yu, Mengru Xue, Jun Hu, Loe M.G. Feijs. 2018. *BioFidget Demo: Biofeedback for Respiration Training Using an Augmented Fidget Spinner*. ACM CHI 2018: Demo and Video Showcase, Montreal, Canada.

43. Mengru Xue, Rong-Hao Liang, Jun Hu, Loe Feijs. 2017. *ClockViz: Designing Public Visualization for Coping with Collective Stress in Teamwork*. Proceedings of DeSForM 2017, Article 5, Eindhoven, the Netherlands.

42. ★ Rong-Hao Liang, Han-Chih Kuo, Bing-Yu Chen. 2016. *GaussRFID: Reinventing Physical Toys with Magnetic RFID Kits*. Proceedings of ACM CHI 2016: ACM SIGCHI Conference on Human Factors in Computing Systems, pp. 4233–4237, San Jose, CA, USA.

41. ★ Han-Chih Kuo, Rong-Hao Liang, Long-Fei Lin, Bing-Yu Chen. 2016. *GaussMarbles: Spherical Magnetic Tangibles for Interacting with Portable Physical Constraints*. Proceedings of ACM CHI 2016: ACM SIGCHI Conference on Human Factors in Computing Systems, pp. 4228–4232, San Jose, CA, USA.

40. ★ Da-Yuan Huang, Liwei Chan, Shuo Yang, Fan Wang, Rong-Hao Liang, De-Nian Yang, Yi-Ping Hung, Bing-Yu Chen. 2016. *DigitSpace: Designing Thumb-to-Fingers Touch Interfaces for One-handed and Eyes-free Interactions*. Proceedings of ACM CHI 2016: ACM SIGCHI Conference on Human Factors in Computing Systems, pp. 1526–1537, San Jose, CA, USA.

39. ★ Chiuan Wang, Hsuan-Ming Yeh, Bryan Wang, Te-Yen Wu, Hsin-Ruey Tsai, Rong-Hao Liang, Yi-Ping Hung, Mike Y. Chen. 2016. *CircuitStack: Supporting Rapid Prototyping and Evolution of Electronic Circuits*. Proceedings of ACM UIST 2016: ACM User Interface Software and Technology Symposium, pp. 687–695, Tokyo, Japan. [UIST 2016 Best Talk Award]

38. ★ Yi-Chi Liao, Yi-Ling Chen, Jo-Yu Jo, Rong-Hao Liang, Liwei Chan, Bing-Yu Chen. 2016. *EdgeVib: Effective Alphanumeric Output Using a Wrist-Worn Tactile Display*. Proceedings of ACM UIST 2016: ACM User Interface Software and Technology Symposium, pp. 595–601, Tokyo, Japan.

37. ★ Meng-Ju Hsieh, Rong-Hao Liang, Bing-Yu Chen. 2016. *NailTactors: Eyes-Free Spatial Output Using a Nail-Mounted Tactor Array*. Proceedings of ACM MobileHCI 2016: ACM Conference on Human-Computer Interaction with Mobile Devices and Services, pp. 29–34, Florence, Italy.

36. Rong-Hao Liang, Han-Chih Kuo, Miguel Bruns Alonso, Bing-Yu Chen. 2016. *GaussStudio: Designing Seamless Tangible Interactions on Portable Displays*. ACM TEI 2016: Studio Workshop, Eindhoven, the Netherlands.

35. Yung-Ta Lin, Jui-Chun Hsiao, Yi-Chi Liao, Rong-Hao Liang, Bing-Yu Chen. 2016. *One-dimensional Proactive Sensing for Enlarging Gesture-interaction Space*. TAICHI 2016: Poster, Taipei, Taiwan. [Best Poster Award]

34. Shan-Yuan Teng, Jo-Hsi Tang, Yi-Chi Liao, Rong-Hao Liang, Bing-Yu Chen. 2016. *Playing Air Guitar by Electrical Muscle Stimulation*. TAICHI 2016: Poster, Taipei, Taiwan.

33. Long-Fei Lin, Shan-Yuan Teng, Rong-Hao Liang, Bing-Yu Chen. 2016. *Stylus Assistant: Designing Dynamic Constraints for Facilitating Stylus Inputs on Portable Displays*. ACM SIGGRAPH Asia 2016: Emerging Technologies Demo, Macao.

32. ★ Chin-Yu Chien, Rong-Hao Liang, Long-Fei Lin, Liwei Chan, Bing-Yu Chen. 2015. *FlexiBend: Enabling Interactivity of Multi-Part, Deformable Fabrications Using Single Shape-Sensing Strip*. Proceedings of ACM UIST 2015: ACM User Interface Software and Technology Symposium, pp. 659–663, Charlotte, NC, USA.

31. ★ Liwei Chan, Yi-Ling Chen, Chi-Hao Hsieh, Rong-Hao Liang, Bing-Yu Chen. 2015. *CyclopsRing: Enabling Whole-Hand and Context-Aware Interactions Through a Fisheye Ring*. Proceedings of ACM UIST 2015: ACM User Interface Software and Technology Symposium, pp. 549–556, Charlotte, NC, USA.

30. ★ Rong-Hao Liang, Chao Shen, Yu-Chien Chan, Guan-Ting Chou, Liwei Chan, De-Nian Yang, Mike Y. Chen, Bing-Yu Chen. 2015. *WonderLens: Optical Lenses and Mirrors for Tangible Interactions on Printed Paper*. Proceedings of ACM CHI 2015: ACM SIGCHI Conference on Human Factors in Computing Systems, pp. 1281–1284, Seoul, Korea.

29. ★ Liwei Chan, Chi-Hao Hsieh, Yi-Ling Chen, Shuo Yang, Da-Yuan Huang, Rong-Hao Liang, Bing-Yu Chen. 2015. *Cyclops: Wearable and Single-Piece Full-Body Gesture Input Devices*. Proceedings of ACM CHI 2015: ACM SIGCHI Conference on Human Factors in Computing Systems, pp. 3001–3010, Seoul, Korea.

28. ★ Hung-Yu Tseng, Rong-Hao Liang, Liwei Chan, Bing-Yu Chen. 2015. *LEaD: Utilizing Light Movement as Peripheral Visual Guidance for Scooter Navigation*. Proceedings of ACM MobileHCI 2015: ACM Conference on Human-Computer Interaction with Mobile Devices and Services, pp. 323–326, Copenhagen, Denmark.

27. Rong-Hao Liang, Han-Chih Kuo, Bing-Yu Chen. 2015. *GaussStarter: Prototyping Analog Hall-Sensor Grids with Breadboards*. ACM UIST 2015: Demo, Charlotte, NC, USA.

26. Yi-Chi Liao, Shun-Yao Yang, Rong-Hao Liang, Liwei Chan, Bing-Yu Chen. 2015. *ThirdHand: Wearing a Robotic Arm to Experience Rich Force Feedback*. ACM SIGGRAPH Asia 2015: Emerging Technologies Demo, Kobe, Japan.

25. Yi-Ling Chen, Wei-Tse Lee, Liwei Chan, Rong-Hao Liang, Bing-Yu Chen. 2015. *Direct View Manipulation for Drone Photography*. ACM SIGGRAPH Asia 2015: Poster, Kobe, Japan.

24. Chin-Yu Chien, Cheng-Yuan Li, Liwei Chan, Yi-Chi Liao, Rong-Hao Liang, Hao-Hua Chu, Bing-Yu Chen. 2015. *fStrip: A Malleable Shape-Retaining Wearable Strip for Interface On-Demand*. ACM UbiComp 2015: Poster, Osaka, Japan.

23. Liwei Chan, Chi-Hao Hsieh, Yi-Ling Chen, Rong-Hao Liang, Bing-Yu Chen. 2015. *HandSight: Enabling Whole-Hand and Context-Aware Interactions Through a Fisheye Ring*. TAICHI 2015: Poster, Taipei, Taiwan.

22. Rong-Hao Liang, Chao Shen, Yu-Chien Chan, Guan-Ting Chou, Liwei Chan, De-Nian Yang, Mike Y. Chen, Bing-Yu Chen. 2015. *WonderLens: Optical Lenses and Mirrors for Tangible Interactions on Printed Paper*. ACM CHI 2015: Interactivity Demo, Seoul, Korea.

21. Hung-Yu Tseng, Rong-Hao Liang, Liwei Chan, Bing-Yu Chen. 2015. *Utilizing Point-Light Movement as Peripheral Visual Guidance for Scooter Navigation*. ACM Augmented Human 2015: Poster, Singapore.

20. ★ Rong-Hao Liang, Han-Chih Kuo, Liwei Chan, De-Nian Yang, Bing-Yu Chen. 2014. *GaussStones: Shielded Magnetic Tangibles for Multi-Token Interactions on Portable Displays*. Proceedings of ACM UIST 2014: ACM User Interface Software and Technology Symposium, pp. 365–372, Honolulu, Hawaii, USA.

19. ★ Rong-Hao Liang, Liwei Chan, Hung-Yu Tseng, Han-Chih Kuo, Da-Yuan Huang, De-Nian Yang, Bing-Yu Chen. 2014. *GaussBricks: Magnetic Building Blocks for Constructive Tangible Interactions on Portable Displays*. Proceedings of ACM CHI 2014: ACM SIGCHI Conference on Human Factors in Computing Systems, pp. 3153–3162, Toronto, ON, Canada. [CHI 2014 Best Paper Honorable Mention, CHI 2014 People's Choice Best Talk Award]

18. Chi-Chiang Huang, Rong-Hao Liang, Liwei Chan, Bing-Yu Chen. 2014. *Dart-It: Interacting with a Remote Display by Throwing Your Finger Touch*. ACM SIGGRAPH 2014: Emerging Technologies Demo and Poster, Vancouver, BC, Canada.

17. Chi-Chiang Huang, Rong-Hao Liang, Liwei Chan, Bing-Yu Chen. 2014. *FingerShot: Perspective-Based Remote Direct-Pointing Using One RGBD Camera*. CGW 2014, Taipei, Taiwan.

16. Rong-Hao Liang, Liwei Chan, Hung-Yu Tseng, Han-Chih Kuo, Da-Yuan Huang, De-Nian Yang, Bing-Yu Chen. 2014. *GaussBricks: Magnetic Building Blocks for Constructive Tangible Interactions on Portable Displays*. ACM CHI 2014: Demo & Video Showcase, Toronto, ON, Canada.

15. Liwei Chan, Chien-Ting Weng, Rong-Hao Liang, Bing-Yu Chen. 2014. *AnyButton: Unpowered, Modeless and Highly Available Mobile Input Using Unmodified Clothing Buttons*. ACM Augmented Human 2014: Poster, Kobe, Japan.

14. ★ Liwei Chan, Rong-Hao Liang, Ming-Chang Tsai, Kai-Yin Cheng, Chao-Huai Su, Mike Y. Chen, Wen-Huang Cheng, Bing-Yu Chen. 2013. *FingerPad: Private and Subtle Interaction Using Fingertips*. Proceedings of ACM UIST 2013: ACM User Interface Software and Technology Symposium, pp. 255–260, St Andrews, UK.

13. ★ Rong-Hao Liang, Kai-Yin Cheng, Liwei Chan, Chuan-Xhyuan Peng, Mike Y. Chen, Rung-Huei Liang, De-Nian Yang, Bing-Yu Chen. 2013. *GaussBits: Magnetic Tangible Bits for Portable and Occlusion-Free Near-Surface Interactions*. Proceedings of ACM CHI 2013: ACM SIGCHI Conference on Human Factors in Computing Systems, pp. 1391–1400, Paris, France.

12. ★ Chao-Huai Su, Liwei Chan, Chien-Ting Weng, Rong-Hao Liang, Kai-Yin Cheng, Bing-Yu Chen. 2013. *NailDisplay: Bringing an Always-Available Visual Display To Fingertips*. Proceedings of ACM CHI 2013: ACM SIGCHI Conference on Human Factors in Computing Systems, pp. 1461–1464, Paris, France. [CHI 2013 Best Paper Award]

11. Rong-Hao Liang. 2013. *Augmenting the Input Space of Portable Displays Using Add-On Hall-Sensor Grid*. ACM UIST 2013: Doctoral Symposium, St Andrews, United Kingdom.

10. Rong-Hao Liang, Kai-Yin Cheng, Liwei Chan, Chuan-Xhyuan Peng, Mike Y. Chen, Rung-Huei Liang, De-Nian Yang, Bing-Yu Chen. 2013. *GaussBits: Magnetic Tangible Bits for Portable and Occlusion-Free Near-Surface Interactions*. ACM CHI 2013: Interactivity Demo & Video Showcase, Paris, France.

9. Rong-Hao Liang, Kai-Yin Cheng, Liwei Chan, Chuan-Xhyuan Peng, Mike Y. Chen, Rung-Huei Liang, De-Nian Yang, Bing-Yu Chen. 2013. *Tracking Magnetics Above Portable Displays*. ACM SIGGRAPH 2013: Poster, Anaheim, CA, USA.

8. ★ Rong-Hao Liang, Kai-Yin Cheng, Chao-Huai Su, Chien-Ting Weng, Bing-Yu Chen, De-Nian Yang. 2012. *GaussSense: Attachable Stylus Sensing Using Magnetic Sensor Grid*. Proceedings of ACM UIST 2012: ACM User Interface Software and Technology Symposium, pp. 319–326, Cambridge, MA, USA.

7. Rong-Hao Liang, Chao-Huai Su, Chien-Ting Weng, Kai-Yin Cheng, Bing-Yu Chen, De-Nian Yang. 2012. *GaussBrush: Drawing with Magnetic Stylus*. ACM SIGGRAPH Asia 2012: Emerging Technologies Demo, Singapore. [SIGGRAPH Asia 2012 Emerging Technologies Prize]

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5. ★ Shu-Yang Lin, Chao-Huai Su, Kai-Yin Cheng, Rong-Hao Liang, Tzu-Hao Kuo, Bing-Yu Chen. 2011. *PUB - Point Upon Body: Exploring Eyes-Free Interaction and Methods on an Arm*. Proceedings of ACM UIST 2011: ACM User Interface Software and Technology Symposium, pp. 481–488, Santa Barbara, CA, USA.

4. Rong-Hao Liang, Shu-Yang Lin, Chao-Huai Su, Kai-Yin Cheng, Bing-Yu Chen, De-Nian Yang. 2011. *SonarWatch: Appropriating the Forearm as a Slider Bar*. ACM SIGGRAPH Asia 2011: Emerging Technologies Demo, Hong Kong, China.

3. ★ Kai-Yin Cheng, Rong-Hao Liang, Bing-Yu Chen, Rung-Huei Liang, Sy-Yen Kuo. 2010. *iCon: Utilizing Everyday Objects as Additional, Auxiliary and Instant Tabletop Controllers*. Proceedings of ACM CHI 2010: ACM SIGCHI Conference on Human Factors in Computing Systems, pp. 1155–1164, Atlanta, Georgia, USA.

2. Kai-Yin Cheng, Rong-Hao Liang, Hung-Jung Lin, Bing-Yu Chen, Rung-Huei Liang, Ming-Yang Yu, Hao-Hua Chu, Yu-Ming Chu, Sy-Yen Kuo. 2009. *MemoIcon: Using Everyday Objects as Physical Icons*. ACM SIGGRAPH Asia 2009: Emerging Technologies Demo, Yokohama, Japan.

1. Chih-Ying Yang, Rung-Huei Liang, Wen-Jong Wu, Mang-Yang Lee, Kuo-Chun Tseng, Rong-Hao Liang, Hung-Jung Lin, Yi-Chu Lin, Yen-Hao Chen, Cheng-Dar Chiang, Bing-Yu Chen, Kai-Yin Cheng. 2009. *Memory Bricolage Table for the Elderly*. DeSForM 2009: Demo, Taipei, Taiwan.

Patents (US)

Granted Patents

- US10990871 – *Contact switch, contact switch system, and interactive building block system carrying the contact switch*. April 27, 2021. Based on UHF RFID for mutual contact detection. Assignees: National Taiwan University, Mediatek Inc.
- US10095309 – *Input device, system and method for finger touch interface*. October 9, 2018. Assignee: Mediatek Inc.
- US9607433 – *Geometric structure analyzing method, geometric structure analyzing system, and computer program product*. March 28, 2017. Assignee: National Taiwan University.
- US9347762 – *Near-surface object sensing device and sensing method*. May 24, 2016. Assignee: National Taiwan University.

Patent Applications

- US20200242441 – *Contact switch, contact switch system, and interactive building block system carrying the contact switch*. July 30, 2020.
- US20180253146 – *Nail-mounted tactile displaying device*. September 6, 2018.
- US20180067552 – *Input device, system and method for finger touch interface*. March 8, 2018.
- US20170255821 – *Gesture recognition system and related method*. September 7, 2017.
- US20170052097 – *Shape-sensing system having sensor strip and deformable object*. February 23, 2017.
- US20160202331 – *Identification system and method for shielded magnetic unit*. July 14, 2016.
- US20160098080 – *Finger-touch tracking system*. April 7, 2016.
- US20150279096 – *Geometric structure analyzing method, geometric structure analyzing system, and computer program product*. October 1, 2015.
- US20150084879 – *Nail-mounted display system*. March 26, 2015.
- US20140207407 – *Near-surface object sensing device and sensing method*. July 24, 2014.
- US20130285940 – *Touch type control equipment and method thereof*. October 31, 2013.

Teaching

I foster student enthusiasm by nurturing their passions and providing emotional support while guiding their ambitions. I employ multi-modal teaching methods and hands-on activities to enhance understanding of abstract concepts. Additionally,

I have created and utilized practical tools in class to teach technology skills, research methods, and effective communication. These practices have consistently garnered positive feedback from past student evaluations.

Courses Taught at TU Eindhoven

- **Designing User Interfaces with Emerging Technologies** – Responsible Lecturer (2025, 2024, 2023, 2022 with Steven Houben, 2021)
- **Interactive Intelligent Products** – Responsible Lecturer (2025, 2024 with Aaqib Saeed, 2023, 2022, 2021 with Janet Y. Huang; also 2020, 2019, 2018)
- **Crafting Everyday Soft Things** – Squad Coach (2025, 2024, 2023, 2022, 2021, 2020, 2019), with Kristina Andersen, Oscar Tomico, Doenja Oogjes, Troy Nachtigall, Marina Toeters, Ron Wakkary, Annika Hupfeld, Loe Feijs, Stephan Wensveen
- **Creative Programming** – Lecturer (2025, 2024, 2023, 2022, 2021, 2020, 2019, 2018), with Jun Hu, Janet Y. Huang, Loe Feijs, Erik van der Spek, Peter Peters.
- **Creative Electronics** – Responsible Lecturer (2019, 2018, 2017); Lecturer (2020), with Peter Peters, Jan Rouvroye, Hank Apeldoorn, Geert van den Boomen, Pierre Cluitman
- **Sensors for Physiology** – Responsible Lecturer (2019); Lecturer (2018), with Loe Feijs, Steven Vos, Hareld Kemp
- **Embodying Intelligent Behavior in Social Contexts** – Lecturer (2020, 2019, 2018, 2017), with Emilia Barakova, Jun Hu
- **Connecting Realities** – Squad Leader (2018), with Jun Hu, Caroline Hummels, Matthias Rauterburg, Pierre Levy
- **Designing Intelligence in Interaction** – Lecturer (2018), with Jun Hu, Loe Feijs, Matthias Rauterburg, Mathias Funk, Erik van der Spek

Course Taught at National Taiwan University

- **Human-Computer Interaction** – Lecturer (2016), with Bing-Yu Chen