

Curriculum Vitae

Rong-Hao Liang

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Experiences

- **Assistant Professor** *Oct. 2016 – now*
Department of Industrial Design, Eindhoven University of Technology, The Netherlands
- **Co-Founder** *Mar. 2015 – now*
GaussToys Inc., Taiwan
- **Assistant Research Fellow** *Dec. 2014 – Sep. 2016*
Intel-NTU Connected Context Computing Center, National Taiwan University, Taiwan
- **Research Assistant** *Apr. 2010 – Dec. 2014*
Institute of Information Science, Academia Sinica, Taiwan

Education

- **Doctor of Philosophy (Ph.D.)** *Sep. 2011 – Oct. 2014*
Graduate Institute of Networking and Multimedia, National Taiwan University, Taiwan
Thesis: GaussTUIKit - Designing Portable and Seamless Tangible Interactions Using Magnetics
(Advisor: Dr. Bing-Yu Chen)
- **Master of Science (M.S.)** *Sep. 2008 – Jun. 2010*
Department of Electrical Engineering, National Taiwan University, Taiwan
Thesis: Utilizing Everyday Objects as Additional, Auxiliary and Instant Tabletop Controllers
(Advisor: Dr. Sy-Yen Kuo)
- **Bachelor of Science (B.S.)** *Sep. 2003 – Jun. 2007*
Department of Computer Science, Chang Gung University, Taiwan

Publication

Selected International Conference Papers

1. **Rong-Hao Liang**, Han-Chih Kuo, Bing-Yu Chen. **2016**. *GaussRFID: Reinventing Physical Toys with Magnetic RFID Kits*. In *Proc. ACM CHI 2016*, pp.4233--4237, San Jose, CA, USA.
2. Han-Chih Kuo, **Rong-Hao Liang**, Long-Fei Lin, Bing-Yu Chen. **2016**. *GaussMarbles: Spherical Magnetic Tangibles for Interacting with Portable Physical Constraints*. In *Proc. ACM CHI 2016*, pp.4228--4232, San Jose, CA, USA.
3. 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*. In *Proc. ACM CHI 2016*, pp.1526--1537, San Jose, CA, USA.
4. Meng-Ju Hsieh, **Rong-Hao Liang**, Bing-Yu Chen. **2016**. *NailTactors: Eyes-Free Spatial Output Using a Nail-Mounted Tactor Array*. In *Proc. ACM MobileCHI 2016*, pp. 29--34, Florence, Italy.
 5. 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*. In *Proc. ACM UIST 2016*, pp.687--695, Tokyo, Japan. [UIST 2016 Best Talk Award]
 6. 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*. In *Proc. ACM UIST 2016*, pp.595--601, Tokyo, Japan.
 7. 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*. In *Proc. ACM UIST 2015*, pp.659--633, Charlotte, NC, USA.
 8. 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*. In *Proc. ACM UIST 2015*, pp.549--556, Charlotte, NC, USA.
 9. Hung-Yu Tseng, **Rong-Hao Liang**, Liwei Chan, Bing-Yu Chen. **2015**. *LEaD: Utilizing Light Movement as Peripheral Visual Guidance for Scooter Navigation*. In *Proc. ACM MobileHCI 2015*, pp. 323--326, Copenhagen, Denmark.
 10. **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*. In *Proc. ACM CHI 2015*, pp.1281--1284, Seoul, Korea.
 11. 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*. In *Proc. ACM CHI 2015*, pp.3001--3010, Seoul, Korea.
 12. **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*. In *Proc. ACM UIST 2014*, pp.365--372, Honolulu, Hawaii, USA.
 13. **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*. In *Proc. ACM CHI 2014*, pp.3153--3162, Toronto, ON, Canada. [CHI 2014 Best Paper Honorable Mention Award & CHI 2014 People's Choice Best Talk Award]
 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*. In *Proc. ACM UIST 2013*, pp.255--260, St Andrews, United Kingdom.
 15. **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*. In *Proc. ACM CHI 2013*, pp.1391–1400, Paris, France.
16. 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*. In *Proc. ACM CHI 2013*, pp.1461–1464, Paris, France. [**CHI 2013 Best Paper Award**]
17. **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*. In *Proc. ACM UIST 2012*, pp.319–326, MA, USA.
18. 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*. In *Proc. ACM UIST 2011*, pp.481–488, Santa Barbara, USA.
19. 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*. In *Proc. ACM CHI 2010*, pp.1155–1164, Atlanta, Georgia, USA.

International Conference Doctoral Symposium Paper, Demos, and Posters

1. **Rong-Hao Liang**, Han-Chih Kuo, Miguel Bruns Alonso, Bing-Yu Chen. **2016**. *GaussStudio: Designing Seamless Tangible Interactions on Portable Displays*. In *ACM TEI 2016 Studio Workshop (as organizer)*, to appear, Eindhoven, The Netherlands.
2. 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.
3. **Rong-Hao Liang**, Han-Chih Kuo, Bing-Yu Chen. **2015**. *GaussStarter: Prototyping Analog Hall-Sensor Grids with Breadboards*. In *ACM UIST 2015 Demo*, Charlotte, NC, USA.
4. 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*. In *ACM SIGGRAPH Asia 2015 Emerging Technologies Demo*, Kobe, Japan.
5. Yi-Ling Chen, Wei-Tse Lee, Liwei Chan, **Rong-Hao Liang**, Bing-Yu Chen. **2015**. *Direct View Manipulation for Drone Photography*. In *ACM SIGGRAPH Asia 2015 Poster*, Kobe, Japan.
6. 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*. In *ACM Ubicomp 2015 Poster*, Osaka, Japan
7. **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*. In *ACM CHI 2015 Interactivity Demo*, Seoul, Korea.
8. Hung-Yu Tseng, **Rong-Hao Liang**, Liwei Chan, Bing-Yu Chen. **2015**. *Utilizing Point-Light Movement as*

- Peripheral Visual Guidance for Scooter Navigation*. In *ACM Augmented Human 2015 Poster*, Singapore.
9. Chi-Chiang Huang, **Rong-Hao Liang**, Liwei Chan, Bing-Yu Chen. **2014**. *Dart-It: Interacting with a Remote Display by Throwing Your Finger Touch*. In *ACM SIGGRAPH 2014 Emerging Technologies Demo and Poster*, Vancouver, BC, Canada.
 10. **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*. In *ACM CHI 2014 Demo & Video Showcase*, Toronto, ON, Canada.
 11. Liwei Chan, Chien-Ting Weng, **Rong-Hao Liang**, and Bing-Yu Chen. **2014**. *AnyButton: Unpowered, Modeless and Highly Available Mobile Input Using Unmodified Clothing Buttons*. In *ACM Augmented Human 2014 Poster*, Kobe, Japan.
 12. **Rong-Hao Liang**. **2013**. *Augmenting the Input Space of Portable Displays Using Add-On Hall-Sensor Grid*. In *ACM UIST 2013 Doctoral Symposium*, St Andrews, United Kingdom.
 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*. In *ACM CHI 2013 Interactivity Demo & Video Showcase*, Paris, France.
 14. **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*. In *ACM SIGGRAPH 2013 Poster*, CA, USA.
 15. **Rong-Hao Liang**, Chao-Huai Su, Chien-Ting Weng, Kai-Yin Cheng, Bing-Yu Chen, De-Nian Yang. **2012**. *GaussBrush: Drawing with Magnetic Stylus*. In *ACM SIGGRAPH Asia 2012 Emerging Technologies Demo*, Singapore. [SIGGRAPH Asia 2012 Emerging Technologies Prize]
 16. **Rong-Hao Liang**, Kai-Yin Cheng, Bing-Yu Chen, De-Nian Yang. **2012**. *GaussSketch: Add-On Magnetic Sensing for Natural Sketching on Smartphones*. In *ACM SIGGRAPH 2012 Poster*, CA, USA.
 17. **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*. In *ACM SIGGRAPH Asia 2011 Emerging Technologies Demo*, Hong Kong, China.
 18. 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*. In *ACM SIGGRAPH Asia 2009 Emerging Technologies Demo*, Yokohama, Japan.

Awards

1. **ACM UIST 2016 Best Talk Award**, *CircuitStack: Supporting Rapid Prototyping and Evolution of Electronic Circuits.2016*
2. **Excellent Ph.D. These Award**, Institute of Information & Computing Machinery, Taiwan.

3. **First Prize (\$85,000 Cash Prize), 4th MOST FITI Entrepreneur Competition, Taiwan.** *GaussToys. 2014.*
4. **First Prize (\$65,000 Cash Prize), 8th Acer Long-Term Entrepreneur Competition, Taiwan.** *GaussToys. 2014.*
5. **ACM CHI 2014 Best Paper Honorable Mention Award,** *GaussBricks: Magnetic Building Blocks for Constructive Tangible Interactions on Portable Displays. 2014*
6. **ACM CHI 2014 People's Choice Best Talk Award,** *GaussBricks: Magnetic Building Blocks for Constructive Tangible Interactions on Portable Displays. 2014*
7. **ACM CHI 2013 Best Paper Award,** *NailDisplay: Bringing Always-Available Visual Display To Fingertips. 2013.*
8. **ACM SIGGRAPH Asia 2012 Emerging Technologies Prize,** *GaussBrush: Drawing with Magnetic Stylus. 2012.*
9. **Second Prize (\$32,000 Cash Prize), 7th Long-Term Entrepreneur Competition, Taiwan.** *ArmTech. 2012.*

Patents (US)

1. US2015/0279096 A1. "Geometric Structure Analyzing Method, Geometric Structure Analyzing System, and Computer Program Product"
2. US2014/0207407 A1. "Near-Surface Object Sensing Device and Sensing Method"
3. US2013/0285940 A1. "Touch Type Control Equipment and Method Thereof"
4. US Patent Pending. "Identification System and Method for Shielded Magnetic Unit"
5. US Patent Pending. "Full-Body Gesture Recognition Device and Sending Method "

Professional Services (International)

- Publicity Chair: UIST '16
- Program Chair: DeSForM '17 Paper
- Program Committee: UIST '17 Technical Paper, ACM SIGGRAPH Asia E-Tech '16, TEI '16 Work-in-Progress, CHI '15 Work-in-Progress
- Paper Reviewer: CHI '13, '14, '15, '16, '17; UIST '15, '16; TEI '14, '15, '16; ACE '14, '15; IJHCS '14; ACM SIGGRAPH Asia E-Tech '13, '14, '15, '16; CASA '14