

# Lung-Pan Cheng

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## RESEARCH INTEREST

Human-Computer Interaction; large-scale haptics in VR; sensing techniques; mobile interactions

## EDUCATION

- Ph.D., Human-Computer Interaction, *Hasso Plattner Institute*, Potsdam, Germany 11/2012 – present
- M.S., Computer Science, *National Taiwan University*, Taipei, Taiwan 09/2011 – 11/2012  
GPA: 92.32/100
- B.S., Computer Science, *National Chiao Tung University*, Hsinchu, Taiwan 09/2006 – 01/2010  
GPA: 96.7/100 (last 60), 95.1/100 (major), 89.8/100 (overall), Rank 3/56.

## WORK/INTERNSHIPS

- Research Intern, *Microsoft Research Redmond*, [www.microsoft.com/en-us/research/](http://www.microsoft.com/en-us/research/) 05/2016 – 08/2016
- Built a system that uses a hemisphere prop to provide touch feedback in VR
- Interaction Architecture Intern, *Apple Inc.*, [www.apple.com](http://www.apple.com) 10/2014 – 03/2015
- Built tracking devices and designed 3D user interfaces.
- Software Developer, *Wantoto Inc.*, [www.wantoto.com](http://www.wantoto.com) 07/2011 – 07/2012
- Developed iOS apps and web applications on Google Cloud.
- Chief Counselor, *R.O.C Army*, Compulsory Military Service, Taiwan 08/2010 – 07/2011
- Network Test Engineer, *Network Benchmarking Lab*, [www.nbl.org.tw](http://www.nbl.org.tw) 07/2008 – 07/2010
- Tested functionality, compatibility, and performance of switches and routers by simulating different protocol on Spirent SmartBits®.

## PROFICIENCY

- Programming languages: Objective-C, C/C++, C#, Python, PHP SQL, Javascript
- iOS app, tweak (jailbroken app) and external device communication.
- Unity 3D apps and plugins (Windows, OSX, iOS) development.
- Hardware prototyping (Arduino, Processing, PCB design, soldering, laser cutting)
- Tracking system (OptiTrack, Razor Hydra and IMU data processing)

## PUBLICATIONS

- [1] Lung-Pan Cheng, Eyal Ofek, Christian Holz, Hrvoje Benko, and Andrew D. Wilson. 2017. Sparse Haptic Proxy: Touch Feedback in Virtual Environments Using a General Passive Prop. In *proceedings of the 2017 CHI Conference on Human Factors in Computing Systems* (CHI '17). ACM, New York, NY, USA, 3718-3728.
- [2] Pedro Lopes, Sijing You, Lung-Pan Cheng, Sebastian Marwecki, and Patrick Baudisch. 2017. Providing Haptics to Walls & Heavy Objects in Virtual Reality by Means of Electrical Muscle Stimulation. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems* (CHI '17). ACM, New York, NY, USA, 1471-1482.
- [3] Lung-Pan Cheng, Thijs Roumen, Hannes Rantzsch, Patrick Schmidt, Sven Köhler, Robert Kovacs, Johannes Jasper, Jonas Kemper, Patrick Baudisch. TurkDeck: Physical Virtual Reality Based on People,

in *proceedings of the 28th annual ACM symposium on User interface software and technology* (UIST '15). Charlotte NC (November 8-11, 2015). ACM, New York, NY, USA. 417-426.

- [4] Dominik Schmidt, Robert Kovacs, Vikram Mehta, Udayan Umaphathi, Sven Köhler, Lung-Pan Cheng, Patrick Baudisch, Level-Ups: Motorized Stilts that Simulate Stair Steps in Virtual Reality, in *Proceedings of the 2015 annual conference on Human factors in computing systems* (CHI '15). Seoul, Korean (April 18 - 23, 2015). ACM, New York, NY, USA. 2157-2160
- [5] Lung-Pan Cheng, Patrick Lühne, Pedro Lopes, Christoph Sterz, Patrick Baudisch, Haptic Turk: a Motion Platform Based on People, in *Proceedings of the 2014 annual conference on Human factors in computing systems* (CHI '14). Toronto, Canada (April 26-May 1, 2014). ACM, New York, NY, USA. 3463-3472.
- [6] Lung-Pan Cheng, Hsiang-Sheng Liang, Che-Yang Wu, Mike Y. Chen, iGrasp: Grasp-based Adaptive Keyboard for Mobile Devices, in *Proceedings of the 2013 annual conference on Human factors in computing systems* (CHI '13). Paris, France (April 27-May 2, 2013). ACM, New York, NY, USA, 3037-3046.
- [7] Lung-Pan Cheng, Fang-I Hsiao, Yen-Tin Lin, Mike Y. Chen, iRotateGrasp: Automatic Screen Rotation based on Grasp of Mobile Devices, in *Proceedings of the 2013 annual conference on Human factors in computing systems* (CHI '13). Paris, France (April 27-May 2, 2013). ACM, New York, NY, USA, 3051-3054.
- [8] Lung-Pan Cheng, Fang-I Hsiao, Yen-Tin Lin, Mike Y. Chen, iRotate Grasp: Automatic Screen Rotation based on Grasp of Mobile Devices, in *Adjunct proceedings of the 25th annual ACM symposium on User interface software and technology* (UIST '12). Boston, MA, USA (October 7-10, 2012). ACM, New York, NY, USA, 15-16.
- [9] Lung-Pan Cheng, Fang-I Hsiao, Yen-Tin Lin, Mike Y. Chen, iRotate: Automatic Screen Rotation based on Face Orientation, in *Proceedings of the 2012 annual conference on Human factors in computing systems* (CHI '12). Austin, TX, USA (May 5-10, 2012). ACM, New York, NY, USA, 2203-2210.
- [10] Neng-Hao Yu, Li-Wei Chan, Seng Yong Lau, Sung-Sheng Tsai, I-Chun Hsiao, Fang-I Hsiao, Lung-Pan Cheng, Mike Y. Chen, Polly Huang, Yi-Ping Hung, TUIC: Enabling Tangible Interaction on Capacitive Multi-touch Displays, in *Proceedings of the 2011 annual conference on Human factors in computing systems* (CHI '11). Vancouver, BC, Canada (May 7-12, 2011). ACM, New York, NY, USA, 2995-3004.

## AWARD AND SCHOLARSHIPS

- Studying Abroad Scholarship (**US\$ 32,000**), Ministry of Education, Taiwan, 2015
- Conference Grant (**NT\$ 40,000**), National Science Council, Taiwan, Oct. 2012
- Conference Grant (**NT\$ 40,000**), Foundation For The Advancement of Outstanding Scholarship, Taiwan, May. 2012
- **1st place (NT\$ 20,000)**, Wargame Competition, Hacks In Taiwan Conference, Taiwan, 2012
- **1st place (NT\$300,000)**, Chung Hua Telecom Mobile Apps Competition, Taiwan, 2010
- Lin Hsiung Chen scholarship (**NT\$100,000**), Taiwan, 2009  
(GPA in the **top 50** of all university students in Taiwan)
- TSMC scholarship (**NT\$100,000**), Taiwan, 2008  
(GPA in the **top 3** of EECS students in NCTU)
- 4 Academic Achievement Awards (**NT\$6,000**), National Chiao Tung University, Taiwan, 2007-2009  
(GPA in **top 5%** of the students in a class of 56 students.)

- 4 Core Curriculum Awards (NT\$6,000), National Chiao Tung University, Taiwan, 2007-2009  
(awarded to **top 5%** of the students in Operating System, Algorithm, Assembly Language and Linear Algebra)