

# Ming-Chun Huang

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## PARTICULARS

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### PRESENT POSITION

Tenure-Track Assistant Professor  
Electrical Engineering and Computer Science  
Case Western Reserve University, Cleveland, OH

*August 2014 - Present*

### EDUCATION

University of California, Los Angeles, CA  
Ph.D. in Computer Science  
Dissertation Title: Sensor Analytics for Healthcare Improvement  
Dissertation Advisor: Professor Majid Sarrafzadeh

*September 2010 - July 2014*

University of Southern California, CA  
M.S. in Electrical Engineering

*August 2008 - May 2010*

National Tsing Hua University, Hsinchu, Taiwan  
B.S. in Electrical Engineering

*September 2003 - June 2007*

## BIO

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Dr. Ming-Chun Huang is an Assistant Professor of Electrical Engineering and Computer Science at Case Western Reserve University. He is the director of the Sensing and Interaction Laboratory and the Mobile Health Laboratory. Dr. Huang has been an active researcher in the area of wearable and mHealth system design and test since 2010, with over 50 publications in premier journals and conferences. He has pioneered several wearable and mHealth innovations and extensively published in this area, including two best paper and demo awards, and leading a data challenge winning team in the IEEE BHI-BSN18 conference. He is an investigator in the Advanced Platform Technology (APT) Center, a VA-funded Center of Excellence and an investigator of the Institute for Smart, Secure and Connected Systems (ISSACS). He aims to create novel devices and analytical algorithms that offer enhanced functionality and performance over conventional tools and technologies in terms of portability, rapid analysis time, and user-friendly operation. For the nature of richness and high-impact of the topics involved, his research will immediately generate a plethora of new knowledge in aspects ranging from innovative sensing technology, advanced data analytics methodology, and optimized clinical decision-making and risk assessment.

## AWARDS AND HONORS

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- Nominated for Case School of Engineering Graduate Teaching Award on April 8, 2019
- Data Challenge Winning Team, in 2018 IEEE International Conference on Biomedical and Health Informatics and IEEE International Conference on Wearable and Implantable Body Sensor Networks (**BSN-BHI'18**), Vegas, NV, USA, March 2018
- Best Paper Award, IEEE International Conference on Implantable and Wearable Body Sensor Networks (**BSN'13**), Boston, USA, May 2013
- Best Demo Paper Award, ACM Conference on Wireless Health (**WH'11**), San Diego, USA, October 2011
- Mentoring student scholarships and awards including, MS student fellowship from The Institute for Smart, Secure and Connected Systems (Mr. Xiaoye Qian), award of interactive poster design at the 2019 Cyberinfrastructure Day (Ms. Golnoush Asaeikheybari), Regeneron Science Talent Search 2019 Scholar (Mr. David Xu), SOURCE summer student research (Ms. Ridaa Ali), think[box] student project fund (Mr. Yi Cai), 2017 Poster Competition Graduate Winner" from Ohio Celebration of Women in Computing (Ms. Jia Chen)

## PRESS RELEASE AND COVERAGE IN POPULAR PRESS

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- Health Action Council, February 2019, "Internet of Medical Wearable Things: Unmet Needs, Challenges, and Impacts"
- Case School of Engineering, November 2018, "Is an Internet of Ears the Next Big Thing for Smart Homes?"
- Case School of Engineering, October 2018, "Senior Care Meets Scientific Research"
- Veterans Affairs & Military Medicine Magazine Outlook, Fall 2018, "Wearable Technology - On the Threshold of Clinical Care"
- The Sound of Ideas, Ideastream, August 2018, "Tech To Help Smokers Quit"

## RESEARCH EXPERIENCES

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- **Investigator, Institute for Smart, Secure and Connected Systems (ISSACS)**, May 2018 - Present
- **Director, mHealth@CWRU: Mobile Health Laboratory**, November 2017 - Present
- **Investigator, Advanced Platform Technology (APT), Department of Veterans Affairs Medical Center**, August 2014 - Present
- **Director, SAIL@CWRU: Sensing and Interaction Laboratory**, August 2014 - Present
- **Assistant Professor, Case Western Reserve University**, August 2014 - Present
- **Research Scientist and Engineer, Medisens Inc.**, June 2011 - June 2014
- **Research Assistant, UCLA**, June 2011 - August 2012

## PROFESSIONAL ACTIVITIES

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- Associate Editor, IEEE International Conference on Biomedical and Health Informatics (2019)
- Academic Editor, PLOS ONE (2018 - Present)
- Session Co-Chair, IEEE International Conference on Wearable and Implantable Body Sensor Networks (2018)
- Publicity Co-Chair, MobileHealth Workshop (2015)
- Technical Program Committee Member, IEEE Body Sensor Network (2018 - 2019), IEEE International Conference on Connected Health: Applications, Systems and Engineering Technologies (2017 - 2019), International Conference on Digital Health (2015 - 2016), Smart Rehabilitation Workshop on International Conference on Smart Homes and Health Telematics (2016), IEEE Consumer Communications and Networking Conference (2016) IEEE Globecom (2015), International Conference on Current and Future Trends of Information and Communication Technologies in Healthcare (2015), ACM UbiComp Workshop on Smart Health Systems and Applications (2014)

## SERVICES

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Graduate Committee Case School of Engineering, CWRU (2018 - Present)

Chair of Graduate Committee, Electrical Engineering and Computer Science, CWRU (2017 - 2018)

Technical Reviewer (Journals)

IEEE Transactions on Neural Systems and Rehabilitation Engineering, IEEE Transactions on Affective Computing, IEEE Transactions on Human Machine System, IEEE Transactions on Cybernetics, IEEE Transactions on Industrial Informatics, Elsevier Smart Health, IEEE Journal on Emerging and Selected Topics in Circuits and Systems, IEEE Journal of Biomedical and Health Informatics, IEEE Reviews in Biomedical Engineering, Pervasive and Mobile Computing, IEEE Sensors Journal, IEEE Transactions on Multiscale Computing Systems

Technical Reviewer (Conferences)

IEEE International Conference on Connected Health: Applications, Systems and Engineering Technologies, IEEE International Conference on Engineering in Medicine and Biology Society, IEEE Body Sensor Network Conference, WLSA Wireless Health, EAI International Conference on Body Area Networks

## PUBLICATIONS

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### REFEREED JOURNAL PUBLICATIONS - Published

- [J22] Haotian Jiang, Mustafa Coskun, Alaa Badokhon, Menghan Liu, **Ming-Chun Huang**, "Hidden Smile Correlation Discovery across Subjects using Random Walk with Restart", *IEEE Transactions on Affective Computing (TAC)*, Volume 10, Number 1, January 2019, Pages 76 - 84
- [J21] Taiyu Chen, Xiaoliang Zhang, Haotian Jiang, Golnoush Asaeikheybari, Nikhil Goel, Monica Webb Hooper, **Ming-Chun Huang**, "Are You Smoking? Automatic Alert System Helping People Keep Away from Cigarettes", *Elsevier Smart Health (SH)*, Volume 9, December 2018, Pages 158 - 169 (**Featured Research Reported by the Public Media: The Sound of Ideas, Ideastream**)
- [J20] Diliang Chen, Yi Cai, **Ming-Chun Huang**, "Customizable Pressure Sensor Array: Design and Evaluation", *IEEE Sensors Journal (SJ)*, Volume 18, Issue 15, August 2018, Pages 6337 - 6344
- [J19] Diliang Chen, Yi Cai, Jiawei Cui, Jia Chen, Haotian Jiang, **Ming-Chun Huang**, "Risk Factors Identification and Visualization for Work-related Musculoskeletal Disorders with Wearable and Connected Gait Analytics System and Kinect Skeleton Models", *Elsevier Smart Health (SH)*, Volume 7, 2018, Pages 60 - 77
- [J18] Haotian Jiang, James Starkman, Menghan Liu, **Ming-Chun Huang**, "Food Nutrition Visualization on Google Glass: Design Trade-off and Field Evaluation" in *IEEE Consumer Electronics Magazine (CEM)*, Volume 7, Number 3, May 2018, Pages 21 - 31
- [J17] Zixuan Feng, Subrina Rafique, Yi Cai, Lu Han, **Ming-Chun Huang**, Hongping Zhao, "ZnO Nanowall Networks for Sensor Devices: from Hydrothermal Synthesis to Device Demonstration", *The Electrochemical Society Journal (ECS) of Solid State Science and Technology*, Volume 7, Issue 7, April 2018, Pages 3114-3119
- [J16] Yi Cai, Yifan Guo, Haotian Jiang, **Ming-Chun Huang**, "Machine-learning Approaches for Recognizing Muscle Activities Involved in Facial Expressions Captured by Multi-channels Surface Electromyogram", *Elsevier Smart Health (SH)*, Volume 5, January 2018, Pages 15 - 25
- [J15] Jiawei Cui, Jia Chen, Guanzhou Qu, James Starkman, Xiao Zeng, Elizabeth Madigan, Miriam Pekarek, Wenyao Xu, **Ming-Chun Huang**, "Wearable Gait Lab System Providing Quantitative Statistical Support for Human Balance Tests", *Elsevier Smart Health (SH)*, Volume 3, Number 2, September 2017, Pages 27-38
- [J14] Menghan Liu, Haotian Jiang, Jia Chen, **Ming-Chun Huang**, "Tidal Volume Estimation Using Portable Ultrasound Imaging System", *IEEE Sensors Journal (SJ)*, Volume 16, Issue 24, Dec 2016, Pages 9014-9020
- [J13] Xiaowei Xu, Feng Lin, Aosen Wang, Yu Hu, **Ming-Chun Huang**, Wenyao Xu, "Body-Earth Movers Distance: A Matching-Based Approach for Sleep Posture Recognition", *IEEE Transactions on Biomedical Circuits and Systems (TBioCAS)*, Volume 10, Number 5, October 2016, Pages 1023 - 1035
- [J12] **Ming-Chun Huang**, Jason J. Liu, Wenyao Xu, Changzhan Gu, Changzhi Li, Majid Sarrafzadeh, "A Self-Calibrating Radar Sensor System Design for Measuring Vital Signs", *IEEE Transactions on Biomedical Circuits and Systems (TBioCAS)*, Volume 10, Number 2, April 2016, Pages 352 - 363
- [J11] Menghan Liu, **Ming-Chun Huang**, "Asthma Pattern Identification via Continuous Diaphragm Motion Monitoring", *IEEE Transactions on Multi-Scale Computing Systems (TMSCS)*, Volume 1, Issue 2, October 2015, Pages 76 - 84
- [J10] Jason J. Liu, **Ming-Chun Huang**, Wenyao Xu, Xiaoyi Zhang, Luke Stevens, Nabil Alshurafa, Majid Sarrafzadeh, "BreathSens: A Continuous On-Bed Respiratory Monitoring System with Torso Localization using an Unobtrusive Pressure Sensing Array", *IEEE Journal of Biomedical and Health Informatics (J-BHI)*, Volume 19, Issue 5, September 2015, Pages 1682 - 1688
- [J09] Yu-Ju Lee, **Ming-Chun Huang**, Xiaoyi Zhang, Wenyao Xu, "FridgeNet: A Nutrition and Social Activity Promotion Platform for Aging Population", *IEEE Intelligent Systems (IS)*, Volume 30, Issue 4, July 2015, Pages 23 - 30
- [J08] Nabil Alshurafa, Wenyao Xu, Jason J. Liu, **Ming-Chun Huang**, Bobak Jack Mortazavi, Majid Sarrafzadeh, "Designing a Robust Activity Recognition Framework for Health and Exergaming using Wearable Sensors", *IEEE Journal of Biomedical and Health Informatics (J-BHI)*, Volume 18, Issue 5, September 2014, Pages 1636 - 1646
- [J07] Lauren Samy, **Ming-Chun Huang**, Jason J. Liu, Wenayo Xu, Majid Sarrafzadeh, "Unobtrusive Sleep Stage Identification Using a Pressure Sensitive Bed Sheet", *IEEE Sensors Journal (SJ)*, Volume 14, Issue 7, July 2014, Pages 2092 - 2101
- [J06] **Ming-Chun Huang**, Si-Huei Lee, Shih-Ching Yeh, Rai-Chi Chan, Albert Rizzo, Wenyao Xu, Wu Han-Lin, Lin Shan-hui, "Intelligent Frozen Shoulder Rehabilitation", *IEEE Intelligent Systems Journal (IS)*, Volume 29, Number 3, May 2014, Pages 22 - 28

- [J05] Shih-Ching Yeh, **Ming-Chun Huang**, Pa-Chun Wang, Te-Yung Fang, Mu-Chun Su, Po-Yi Tsai, Albert Rizzo, "Machine Learning-based Assessment Tool for Imbalance and Vestibular Dysfunction with Virtual Reality Rehabilitation System", *Computer Methods and Programs in Biomedicine (CMPB)*, Volume 116, Issue 3, May 2014, Pages 311 - 318
- [J04] **Ming-Chun Huang**, Jason J. Liu, Wenyao Xu, Nabil Alshurafa, Xiaoyi Zhang, Majid Sarrafzadeh, "Using Pressure Map Sequences for Recognition of On Bed Rehabilitation Exercises", *Journal of Biomedical and Health Informatics (J-BHI)*, Volume 18, Number 2, March 2014, Pages 411 - 418
- [J03] Jason J. Liu, Wenyao Xu, **Ming-Chun Huang**, Nabil Alshurafa, Majid Sarrafzadeh, Nitin Raut, Behrooz Yadegar, "Sleep Posture Analysis using using a Dense Pressure Sensitive Bedsheet", *Elsevier Pervasive and Mobile Computing Journal (PMC)*, Volume 10, Issue 2, February 2014, Pages 34 - 50
- [J02] Wenyao Xu, **Ming-Chun Huang**, Navid Amini, Lei He, Majid Sarrafzadeh, "eCushion: A Textile Pressure Sensor Array Design and Calibration for Sitting Posture Analysis", *IEEE Sensors Journal (SJ)*, Volume 13, Number 10, October 2013, Pages 3926 - 3934
- [J01] Peter B. Lillehoj, **Ming-Chun Huang**, Newton Truong, Chih-Ming Ho, "Rapid Electrochemical Detection on a Mobile Phone", *Lab on a Chip*, Volume 13, Issue 15, May 2013, Pages 2950 - 2955

#### REFEREED JOURNAL PUBLICATIONS - Accepted with Early Access

- [A3] Rebecca Schnall, Jasmine Carcamo, Tiffany Porras, **Ming-Chun Huang**, Monica Webb Hooper, "Use of the Phase-Based Model of Smoking Treatment to Guide Intervention Development for Persons Living with HIV who Self-identify as African American Tobacco Smokers", *International Journal of Environmental Research and Public Health (IJERPH)*, 2019
- [A2] Diliang Chen, Huiyi Cao, Huan Chen, Zetao Zhu, Xiaoye Qian, Wenyao Xu, **Ming-Chun Huang**, "Smart Insole Based Indoor Localization System for Internet of Things Applications", *IEEE Internet of Things Journal (IOT)*, 2019
- [A1] Xiaoliang Zhang, Ziqi Yang, Taiyu Chen, Diliang Chen, **Ming-Chun Huang**, "Cooperative Sensing and Wearable Computing for Sequential Hand Gesture Recognition", *IEEE Sensors Journal (SJ)*, 2019

#### REFEREED JOURNAL PUBLICATIONS - Pending Review

- [R1] Haotian Jiang, James Starkman, Yu-Ju Lee, Huan Chen, Menghan Liu, **Ming-Chun Huang**, "Distributed Deep-learning Optimized System over the Cloud and the Smartphone Devices", *IEEE Transactions on Mobile Computing (TMC) (Minor Revision)*

#### REFEREED CONFERENCE PUBLICATIONS

- [C27] Ridaa Ali, Jia Chen, Jianian Zheng, **Ming-Chun Huang**, "Explore Correlation Between Body Balance and Perception using mHealth Technology", 2019 IEEE 16th International Conference on Wearable and Implantable Body Sensor Networks (**BSN'19**), Chicago, USA, May 2019
- [C26] Yi Cai, Haotian Jiang, Jian Chen, Diliang Chen, Guanzhou Qu, Hongping Zhao, Rahila Ansari, **Ming-Chun Huang**, "Smart Prosthesis System: Continuous Automatic Prosthesis Fitting Adjustment and Real-time Stress Visualization", 2018 IEEE Biomedical Circuits and Systems Conference (**BioCAS'18**), Cleveland, USA, October 2018 (**Featured Research Reported by Veterans Affairs & Military Medicine Magazine Outlook**)
- [C25] Yi Cai, Haotian Jiang, Diliang Chen, **Ming-Chun Huang**, "Online Learning Classifier Based Behavioral Biometric Authentication", 2018 IEEE 15th International Conference on Wearable and Implantable Body Sensor Networks (**BSN'18**), Las Vegas, USA, March 2018
- [C24] Haotian Jiang, Yi Cai, Xiao Zeng, **Ming-Chun Huang**, "Is Background Really Matter? Worker Activity Recognition in Unconstrained Construction Environment", 2018 IEEE 15th International Conference on Wearable and Implantable Body Sensor Networks (**BSN'18**), Las Vegas, USA, March 2018
- [C23] Xinyao Tang, **Ming-Chun Huang**, Soumyajit Mandal, "An Internet of Ears for Crowd-Aware Smart Buildings Based on Sparse Sensor Networks", 2017 IEEE SENSORS (**SENSORS'17**), Glasgow, UK, November 2017 (**Featured Research Reported by The Daily**)
- [C22] Diliang Chen, Jia Chen, Haotian Jiang, **Ming-Chun Huang**, "Risk Factors Identification for Work-related Musculoskeletal Disorders with Wearable and Connected Gait Analytics System", 2017 IEEE/ACM International Conference on Connected Health: Applications, Systems and Engineering Technologies (**CHASE'17**), Philadelphia, USA, July 2017

- [C21] Menghan Liu, Haotian Jiang, Jia Chen, Alaa Badokhon, Xuetao Wei, **Ming-Chun Huang**, "A Collaborative Privacy-Preserving Deep Learning System in Distributed Mobile Environment", 2016 International Conference on Computational Science and Computational Intelligence (**CSCI'16**), Las Vegas, USA, December 2016
- [C20] Xuetao Wei, Michael Wolf, Lei Guo, Kyu Hyung Lee, **Ming-Chun Huang**, Nan Niu, "emphaSSL: Towards Emphasis as a Mechanism to Harden Networking Security in Android Apps", 2016 IEEE Global Communications Conference (**GLOBECOM'16**), Washington DC, USA, December 2016
- [C19] Dong Qin, **Ming-Chun Huang**, A Smart Phone Based Gait Monitor System, Proceedings of the 10th EAI International Conference on Body Area Networks (**BodyNets'15**), Sydney, Australia, September 2015
- [C18] Haotian Jiang, James Starkman, Chih-Hung Kuo, **Ming-Chun Huang**, AcuGlass: Quantifying Acupuncture Therapy using Google Glass, Proceedings of the 10th EAI International Conference on Body Area Networks (**BodyNets'15**), Sydney, Australia, September 2015
- [C17] Shuya Chen, Yu-Ching Lan, Yi-Ru Zheng, Ho Huang, Wen-Dien Chang, Shih-Ching Yeh, **Ming-Chun Huang**, "Usability of a Low-Cost Wearable Health Device for Physical Activity and Sleep Duration in Healthy Adults", Proceedings of the 2015 Workshop on Pervasive Wireless Healthcare (**MobileHealth'15**), Hangzhou, China, June 2015
- [C16] Jason J. Liu, **Ming-Chun Huang**, Wenyao Xu, Majid Sarrafzadeh, "Bodyparts Localization for Pressure Ulcer Prevention", 2014 36th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (**EMBC'14**), Chicago, USA, August 2014
- [C15] **Ming-Chun Huang**, Xiaoyi Zhang, Wenyao Xu, Jason J. Liu, Majid Sarrafzadeh, "EZwakeup: A Sleep Environment Design for Sleep Quality Improvement", ACM CHI Conference on Human Factors in Computing Systems (**CHI'14**), Toronto, Canada, April 2014 (Extended Abstract)
- [C14] Xiaoyi Zhang, **Ming-Chun Huang**, Fengbo Ren, Wenyao Xu, Nan Guan, Wang Yi, "Proper Running Posture Guide: Wearable Biomechanics Capture System", Proceedings of the 8th International Conference on Body Area Networks (**BodyNet'13**), Boston, USA, October 2013
- [C13] Xiaoyi Zhang, Wenyao Xu, **Ming-Chun Huang**, Navid Amini, Fengbo Ren, "See UV on Your Skin: An Ultraviolet Sensing and Visualization System", Proceedings of the 8th International Conference on Body Area Networks (**BodyNet'13**), Boston, USA, October 2013
- [C12] **Ming-Chun Huang**, Wenyao Xu, Jason Liu, Lei He, Majid Sarrafzadeh, "Inconspicuous Personal Computer Protection with Touch-Mouse", International Conference on Human Computer Interaction (**HCI'13**), Las Vegas, USA, July 2013
- [C11] **Ming-Chun Huang**, Wenyao Xu, Jason Liu, Lauren Samy, Amir Vajid, Nabil Alshurafa, Majid Sarrafzadeh, "Inconspicuous on-Bed Respiratory Rate Monitoring", Proceedings of the 6th International Conference on Pervasive Technologies Related to Assistive Environments (**PETRA'13**), Rhodes Island, Greece, May 2013
- [C10] Wenyao Xu, **Ming-Chun Huang**, Jason J. Liu, Fengbo Ren, Xinchun Shen, Xiao Liu, Majid Sarrafzadeh, "mCOPD: Mobile Phone Based Lung Function Diagnosis and Exercise System for COPD", Proceedings of the 6th International Conference on Pervasive Technologies Related to Assistive Environments (**PETRA'13**), Rhodes Island, Greece, May 2013
- [C09] Jason J. Liu, **Ming-Chun Huang**, Wenyao Xu, Nabil Alshurafa, Majid Sarrafzadeh, "On-bed Monitoring for Range of Motion Exercises with a Pressure Sensitive Bedsheet", 2013 IEEE International Conference on Body Sensor Networks (**BSN'13**), Boston, USA, May 2013 (**Best Paper Award**)
- [C08] Nabil Alshurafa, Wenyao Xu, Jason J. Liu, **Ming-Chun Huang**, Bobak Mortazavi, Christian Roberts, Majid Sarrafzadeh, "Robust Human Intensity-Varying Activity Recognition using Stochastic Approximation in Wearable Sensors", 2013 IEEE International Conference on Body Sensor Networks (**BSN'13**), Boston, USA, May 2013
- [C07] Jason Liu, Wenyao Xu, **Ming-Chun Huang**, Nabil Alshurafa, Majid Sarrafzadeh, "A Dense Pressure Sensitive Bedsheet Design for Unobtrusive Sleep Posture Monitoring", IEEE International Conference on Pervasive Computing and Communication (**PerCom'13**), San Diego, USA, March 2013
- [C06] Peter. B. Lillehoj, **Ming-Chun Huang**, Chih-Ming Ho, "A Handheld Cell Phone-Based Electrochemical Biodetector", 2013 IEEE 26th International Conference on Micro Electro Mechanical Systems (**MEMS'13**), Taipei, Taiwan, January 2013
- [C05] **Ming-Chun Huang**, Wenyao Xu, Yi Su, Chien-Yen Chang, Belinda Lange, Majid Sarrafzadeh, "Smart Glove for Upper Extremities Rehabilitative Gaming Assessment", Proceedings of the 5th International Conference on Pervasive Technologies Related to Assistive Environments (**PETRA'12**), Crete Island, Greece, June 2012

- [C04] Wenyao Xu, **Ming-Chun Huang**, Navid Amini, Jason Liu, Lei He, Majid Sarrafzadeh, "SmartInsole: A Wearable System for Gait Analysis", Proceedings of the 5th International Conference on Pervasive Technologies Related to Assistive Environments (**PETRA'12**), Crete Island, Greece, June 2012
- [C03] **Ming-Chun Huang**, Ethan Chen, Wenyao Xu, Majid Sarrafzadeh, "Gaming for Upper Extremities Rehabilitation", ACM Conference on Wireless Health (**WH'11**), San Diego, USA, October 2011 (**Best Demo Paper Award**)
- [C02] Navid Amini, Wenyao Xu, Zhinan Li, **Ming-Chun Huang**, Majid Sarrafzadeh, "Experimental Analysis of IEEE 802.15.4 for On/Off Body Communications", 2011 IEEE 22nd International Symposium on Personal Indoor Mobile Radio Communications (**PIMRC'11**), Toronto, Canada, September 2011
- [C01] Wenyao Xu, Zhinan Li, **Ming-Chun Huang**, Navid Amini, Majid Sarrafzadeh, "eCushion: An eTextile Device for Sitting Posture Analysis", 2011 IEEE Conference on Body Sensor Networks (**BSN'11**), Dallas, USA, May 2011

## TECHNICAL REPORTS

- Jared Lindblom, **Ming-Chun Huang**, Jeff Burke, Lixia Zhang, "FileSync over Named Data Networking" (NDN Technical Report NDN-0012, March 2013)

## BOOK CHAPTERS

- Wenyao Xu, **Ming-Chun Huang**, "TOTAL HEALTH: Toward Continuous Personal Monitoring", Wearable Electronics Sensors. Smart Sensors, Measurement and Instrumentation, Volume 15, 2015, Page 37 - 56
- **Ming-Chun Huang**, Shuya Chen, Pa-Chun Wang, Mu-Chun Su, Yen-Po Hung, Chia-Huang Chang, Shih-Ching Yeh, "Automate Virtual Reality Rehabilitation Evaluation for Chronic Imbalance and Vestibular Dysfunction Patients", Advanced Technologies, Embedded and Multimedia for Human-centric Computing Lecture Notes in Electrical Engineering, Volume 260, November 2014, Pages 1099 - 1105

## PATENTS & APPLICATIONS

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1. US Patent Application: "Wearable Nanofabrication Designs Create Better Fitting Intelligent Prosthetic Sockets", May 18, 2018
2. US Patent Application: "Customizable Pressure Sensor Array: Design and Evaluation", May 18, 2018
3. US/International Patent Application: WO2017058913A1: "Wearable and Connected Gait Analytics System", April 6, 2017
4. US Granted Patent: 9330342: "On-bed Monitoring System for Range of Motion Exercises with a Pressure Sensitive Bed Sheet", 2013
5. US Granted Patent: 9271665: "Fabric-Based Pressure Sensor Arrays and Methods for Data Analysis", 2012

## ACADEMIC TEACHING

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- Assistant Professor EECS600: GPU Architecture for Scientific Computing, CWRU, Spring 2020
- Assistant Professor EECS314: Computer Architecture, CWRU, Spring 2020
- Assistant Professor EECS410: Mobile Health (mHealth) Technology, CWRU, Fall 2019
- Assistant Professor EECS600: GPU Architecture for Scientific Computing, CWRU, Spring 2019
- Assistant Professor EECS314: Computer Architecture, CWRU, Spring 2019
- Assistant Professor EECS410: Mobile Health (mHealth) Technology, CWRU, Fall 2018
- Assistant Professor EECS314: Computer Architecture, CWRU Spring 2018
- Assistant Professor EECS410: Mobile Health (mHealth) Technology, CWRU Fall 2017
- Assistant Professor EECS410: Mobile Health (mHealth) Technology, CWRU, Fall 2016
- Assistant Professor EECS397/600: Mobile Computing and Sensor Network, CWRU, Fall 2015
- Assistant Professor EECS600: Personalized Health Technology, CWRU, Spring 2015
- Teaching Assistant CS152/EE116: Digital Circuit Design Laboratory, Prof. Majid Sarrafzadeh, University of California, Los Angeles, Fall 2011 - Spring 2014
- Teaching Assistant CS35L: Software Construction, Prof. Paul Eggert, University of California, Los Angeles, Spring 2011

## GRADUATE/UNDERGRADUATE/K12 STUDENTS ADVISED

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- **7 Ph.D. Students:** Haotian Jiang (expected to receive his Ph.D. degree in 2019 - 2020), Diliang Chen (expected to defend his Ph.D. dissertation proposal in 2019 - 2020), Yi Cai (expected to defend his Ph.D. dissertation proposal in 2019 - 2020), Golnoush Asaeikheybari (2nd year), Huan Chen (1st year), Quan Liu (1st year), and Jiajie Hu (3rd year, co-advised with Prof. Xiong Yu)
- **5 M.S Students:** Huiyi Cao, Jianian Zheng, Shuxiang Zhu, Zetao Zhu, and Feng Zou
- **3 Undergraduate Students:** Ridaa Ali, Justin Green, and Haoyou Cheng
- **9 K12 Students:** David Xu (Jericho High School, NY, 2017 - 2018), Adam Dulay (Hawken High School, OH, 2018), Danny Mullen (St. Ignatius High School, OH, 2018), Nikhil Goel (Hawken High School, OH, 2017 - 2018), Apurva Gandhi (St. Ignatius High School, OH, 2017), Sean Breen (St. Ignatius High School, OH, 2017), Matthew French (St. Ignatius High School, OH, 2016), Alan Bahr (St. Ignatius High School, OH, 2016), and Kevin Arbeznic(St. Ignatius High School, OH, 2015)
- **9 MS/BS Alumni:** Menghan Liu (MS 2016), Jacob Cui (BS 2016), James Starkman (BS 2017), Xiao Zeng (BS 2017), Alaa Badokhon (MS 2017), Xiaoliang Zhang (MS 2018), Jia Chen (MS 2019), Taiyu Chen (MS 2019), and Xiaoye Qian (MS, 2019 and he will continue CWRU Ph.D. program in my research group.)

Name	Degree	Graduation Date	Dissertation Title
Xiaoye Qian	M.S.	May 2019	Wearable Computing Architecture over Distributed Deep Learning Hierarchy: Fall Detection Study
Taiyu Chen	M.S.	March 2019	The Mobile Software System Design to Provide Self-management Healthful Intervention
Jia Chen	M.S.	January 2019	mHealth Tracker to Track Postural Stability and Pain History
Xiaoliang Zhang	M.S.	November 2018	Internet of Wearable Things: Cooperative Sensing and Computing for Hand Gesture Recognition
Alaa Badokhon	M.S.	April 2017	An Adaptable, Fog-Computing Machine-to-Machine Internet of Things Communication Framework
Menghan Liu	M.S.	December 2016	Pulmonary Monitoring in Home Environment Using Ultrasonography and Privacy-preserving Learning Architecture