Vincent W.-S. Tseng

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EDUCATION

PhD in Information Science, Cornell University, NY, USA   August 2014 — present
Committee: Tanzeem Choudhury (chair), Malte Jung, and Kilian Weinberger
Concentrations: Information Systems and Human Computer Interaction (HCI)
Minor: Computer Science

B.S. in Electrical Engineering, National Taiwan University, Taipei, Taiwan   2009 — 2013
GPA: 3.8/4.0

SKILLS

Programming Languages:
Python, Java, C++, C, Android, Objective-C, Swift, Matlab, R

Methods:
Machine Learning, Rapid Prototyping, Longitudinal Study, Statistical Analysis

RELEVANT COURSEWORK

Machine Learning, Bayesian Machine Learning, Rapid Prototyping, Human-centered Design Methods,
Statistical Methods, Behavioral and Information Technology

PATENT

Wen-Sheng Tseng, Sourav Bhattacharya and Nicholas Lane. A system for training binary network that
accelerates runtime inferencing and optimizing accuracy based on device resource constraints. PCT/
EP2017/083005, June 20, 2019.

WORK EXPERIENCE

Research Intern, Google Research, CA, USA   May 2019 — Present
   Mentors: Nachiappan Valliappan, Venky Ramachandran, and Vidhya Navalpakkam

Research Intern, FX Palo Alto Laboratory, CA, USA   June 2018 — August 2018
   Mentors: Matthew Lee and Daniel Avrahami
   Role: Designed and built a conversational website-blocking system to help people transition from break to
         work. Conducted an in-the-wild user study to evaluate the effectiveness of the system.

Research Intern, Bell Labs, Cambridge, UK   June 2017 — September 2017
   Mentors: Sourav Bhattacharya and Nicholas Lane
   Role: Designed binary neural network architectures that have low memory and compute footprint.
         Proposed an architecture where the filters in the architecture can be generated on-the-fly using a
         set of deterministic binary filters and only the coefficients need to be stored in the memory.

Research Assistant, Multimedia and Machine Learning Lab, Academia Sinica, Taiwan   2012 — 2013
   Mentor: Yu-Chiang Frank Wang
   Role: Studied domain adaptation for cross-view image recognition where the test images and training
         mages are taken from different angels. Proposed a low-rank based model that can map images
         taken from different views into the same domain and meanwhile add structural incoherence between
         the transformed images of different categories to achieve better recognition accuracy.

Last updated: December, 2019

TEACHING EXPERIENCE

Info 4120/6120: Ubiquitous Computing, Cornell University   January 2018 — December 2018
   Role: Giving lectures on techniques for building ubiquitous computing systems, including mobile
   programming, hardware prototyping, machine learning, computer vision, and study design.
   Designing lab sessions to enable students to apply the techniques to their final projects.

Consultant, System Engineering, Cornell University   August 2016 — January 2017
   Role: Advised master students in the department of system engineering on building health-sensing and
   health-care systems.

PUBLICATIONS

Journal Articles:

J03   Dror Ben-Zeev, Rachel Brian, Rui Wang, Weichen Wang, Andrew T. Campbell, Min S. H.Aung,
        Michael Merrill, **Vincent W.-S. Tseng**, Tanzeem Choudhury, Marta Hauser, John M. Kane, Emily
        A.Scherer. "CrossCheck: Integrating Self-Report, Behavioral Sensing, and Smartphone Use to
        Identify Digital Indicators of Psychotic Relapse." *Psychiatric Rehabilitation Journal. 2017 Apr 3. doi:
        10.1037/prj0000243.*

J02   Gillian M. Sandstrom, **Vincent W.-S. Tseng**, Jean Costa, Fabian Okeke, Tanzeem Choudhury,
        Elizabeth W. Dunn. "Talking Less during Social Interactions Predicts Enjoyment: A Mobile Sensing
        Pilot Study." *PLoS ONE 11(7): e0158834. doi: 10.1371/journal.pone.0158834.*

J01   Miao-En Chien, CyunMeng Jheng, NiMiao Lin, HsienHui Tang, Taele Paul, **Wen-Sheng Tseng**, Mike
        Y. Chen. "iCAN: A Tablet-Based Pedagogical System for Improving Communication Skills of Children
        with Autism." *International Journal of Human-Computer Studies 73 (2015): 79-90.*

Conference Papers:

C11   Weichen Wang, Shayan Mirjafari, Gabriella Harari, Rui Wang, Dror Ben-Zeev, Rachel Brain, Kizito
        Masaba, **Vincent W.-S. Tseng**, Akane Sano, Hongyi Wen, Tanzeem Choudhury, Emily Scherer,
        John M. Kane, Marta Hauser, and Andrew Campbell. "Assessing the Social Functioning of Patients
        Living with Schizophrenia using Mobile Phones." *In Proceedings of the 2019 CHI Conference on
        Human Factors in Computing Systems (CHI'20).* (Forthcoming)

C10   **Vincent W.-S. Tseng**, Matthew L. Lee, Laurent Denoue and Daniel Avrahami. "Overcoming
        Distractions during Transitions from Break to Work using a Conversational Website-Blocking
        System." *In Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems
        (CHI'19).*

C09   **Vincent W.-S. Tseng**, Saeed Abdullah, Jean Costa and Tanzeem Choudhury. "AlertnessScanner:
        What Do Your Pupils Tell About Your Alertness?" *In Proceedings of the 20th International Conference
        on Human-Computer Interaction with Mobile Devices and Services (MobileHCI'18).*

C08   **Vincent W.-S. Tseng**, Sourav Bhattachara, Fernández-Marqués, Milad Alizadeh, Catherine Tong
        and Nicholas D. Lane. "Deterministic Binary Filters for Convolutional Neural Networks." *In
        Proceedings of the Twenty-Seventh International Joint Conference on Artificial Intelligence
        (IJCAI'18).*

C07   Javier Fernández-Marqués, **Vincent W-S Tseng**, Sourav Bhattachara and Nicholas D Lane. "On-
        the-fly deterministic binary filters for memory efficient keyword spotting applications on embedded
        devices." *In Proceedings of the 2nd International Workshop on Deep Learning for Mobile Systems
        and Applications (EMDL'18).*

C06   Javier Fernández Marqués, **Vincent W.-S. Tseng**, Sourav Bhattacharya and Nicholas Donald Lane.
        "BinaryCmd: Keyword Spotting with deterministic binary basis." *In the 2018 Conference on Systems
        and Machine Learning (SysML'18).*

C05 **Vincent W.-S. Tseng**, Saeed Abdullah, Michael Merrill, Min Hane Aung, Franziska Wittleder and Tanzeem Choudhury. "Assessing Mental Health Issues on College Campuses: Preliminary Findings from a Pilot Study." *In Proceedings of the 2016 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp'16)*.

C04 Rui Wang, Min S. H. Aung, Saeed Abdullah, Rachel Brian, Andrew T. Campbell, Tanzeem Choudhury, Marta Hauser, John Kane, Michael Merrill, Emily A. Scherer, **Vincent W.-S. Tseng**, and Dror Ben-Zeev. "CrossCheck: Toward Passive Sensing and Detection of Mental Health Changes in People with Schizophrenia." *In Proceedings of the 2016 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp'16)*.

C03 **Vincent W.-S. Tseng**, Lun-Kai Hsu, Li-Wei Kang, and Yu-Chiang Frank Wang. "Cross-View Action Recognition via Low-Rank Based Domain Adaptation." *In Image Processing (ICIP), 2013 20th IEEE International Conference on (pp. 3244-3248)*.

C02 Lun-Kai Hsu, **Vincent W.-S. Tseng**, Li-Wei Kang, and Yu-Chiang Frank Wang. "Bridging the Gap Between Expression and Emotion Recognition." *In 2013 IEEE International Conference on Multimedia and Expo (ICME), Theme Track for Multimedia for Humanity*. (Oral Presentation; Nominated for Best Paper Award)

C01 Sheng-Jhe Hsu, **Vincent W.-S. Tseng**, Fu-Chieh Hsu and Yung-Ying Lo. "iSpine: A Motion-sensing Edutainment System for Improving Children's Spinal Health." *In CHI'13 Extended Abstracts on Human Factors in Computing Systems*.

SERVICE

Conference Organizing Committees
- Webmaster Co-Chair, Pervasive Health   2017

Student Volunteering
- ACM ISWC/UbiComp   2019
- ACM ISWC/UbiComp   2016
- ACM UbiComp Program Committee Meeting   2015

Reviewer
- ACM IMWUT   2020
- ACM CSCW   2020
- ACM IMWUT   2019
- ACM IMWUT   2018
- ACM Pervasive Health   2018
- ACM CHI   2017
- ACM IMWUT   2017
- IEEE ICIP   2013
- IEEE ICME   2013

Student Representative at Cornell
- Graduate and Professional Student Assembly   2017
- Admission Committee   2016

INVITED TALKS

Frontier of AI-Assisted Care (FAC) Scientific Symposium. "Developing Clinically Interpretable Machine Learning Models to Predict Fine-Grained Symptom Trajectory of Schizophrenia and Identify Patients At Risk." September 2019.

AWARDS

ACM SIGCHI Student Game Competition Finalist	2013
Trend Micro Big Data Innovation Programming Contest Third Place	2013