Curriculum Vitae – January 13*, 2021*

Qu Tang

Ph.D. Candidate
Department of Electrical and Computer Engineering
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Research Interests

Personal health informatics; computational sensing, applied machine learning for preventive health care; interactive machine learning; interpretable machine learning; data visualization; big data engineering; sensor-enabled mobile health technologies.

Education

Northeastern University, Boston, MA US
mHealth Research Group
Khoury College of Computer Sciences and Department of Electrical and Computer Engineering
Ph.D. Computer Engineering (In-progress)
Area of specialization: interactive and human-in-the-loop machine learning, applied machine learning in healthcare, activity recognition using wearable sensing, signal processing, time series analysis

Northeastern University, Boston, MA US
mHealth Research Group
Khoury College of Computer Sciences and Department of Electrical and Computer Engineering
M.S. in Electrical Engineering (May 2013)
Thesis title: Automatic smoking detection with wrist accelerometers
Advisor: Dr. Stephen Intille
Courses: Digital Signal Processing, Computer Vision, Machine Learning, Linear System Analysis, Computer Simulation and Evaluation, Mobile Application Development in Android, Adaptive Filtering, Time Series Analysis, GPU programming in CUDA.

University of Electronic Science and Technology of China, Chengdu, Sichuan C.N.
Department of Optoelectronic Science and Technology
B.E. in Electric Science and Technology (May 2010)
Scholarships: National Scholarship of China (2007-2009)

Professional Appointments and Research Experience

Northeastern University, Boston, MA US
(January 2013-)
Research assistant, I.T. administrator, mHealth Research Group, Khoury College of Computer Sciences & Dept. of Health Sciences, Bouvé College of Health Sciences

Research on topics related to applied machine learning for health technologies, activity recognition with wearable sensors, mobile sensing, ubiquitous computing. Mentoring of graduate and undergraduate students. I.T. Management.

Schepens Eye Research Institute, Boston, MA US
(December 2011-August 2012)
Research engineer, Cooperative education (Coop), Vision Rehabilitation Laboratory
Software development on eye-tracking systems for vision rehabilitation technologies.

Service (Editing and Reviewing)

Conference and Journal Reviewer (2013-present)

- Reviews for IEEE Sensors, ACM IMWUT, AAAI 2021.

Service (Other Northeastern)

Coordinator of PHI Seminar Speaker Series (September 2014-December 2014)

Service (Open source community)

Author and maintainer

- MIMSunit R package (2015-present)

Contributor (> 10 PRs or issues)

- Signaligner pro software (2018-present)

Publications in Refereed Journals

Tang, Q., John, D., Chhetry, B.T., Arguello, D. and Intille, S., 2020. Posture and Physical Activity Detection: Impact of Number of Sensors and Feature Type. Medicine & Science in Sports & Exercise, 52(8), pp.1834-1845, doi: 10.1249/MSS.0000000000002306.

John, D., Tang, Q., Albinali, F., and Intille, S., 2019. An Open-Source Monitor-Independent Movement Summary for Accelerometer Data Processing. Journal for the Measurement of Physical Behaviour, 2(4), pp.268-281.

Henwood, B., Redline, B., Dzubur, E., Madden, D., Rhoades, H., Dunton, G., Rice, E., Semborski, S., Tang, Q. and Intille, S., 2019. Investigating health risk environments for in housing programs for transition-aged youth. Annuals of Behavioral Medicine, 53, pp. S336-S336.

Troiano, R., Intille, S., John, D., Chhetry, B.T. and Tang, Q., 2018. NHANES and NNYFS wrist accelerometer data: Processing 7TB of data for public access. In Journal of Physical Activity & Health, 15 (10), pp. S19-S19.

Houston, K.E., Bowers, A.R., Fu, X., Liu, R., Goldstein, R.B., Churchill, J., Wiegand, J.P., Soo, T., Tang, Q. and Peli, E., 2016. A pilot study of perceptual-motor training for peripheral prisms. Translational vision science & technology, 5(1), pp.9-9.

Publications in Refereed Conference Proceedings

Goodwin, M.S., Haghighi, M., Tang, Q., Akcakaya, M., Erdogmus, D., and Intille, S., 2014. Moving towards a real-time system for automatically recognizing stereotypical motor movements in individuals on the autism spectrum using wireless accelerometry. In Proceedings of the 2014 ACM International Joint Conference on Pervasive and Ubiquitous Computing, pp. 861-872. ACM.

Tang, Q., Vidrine, D.J., Crowder, E., and Intille, S.S., 2014. Automated detection of puffing and smoking with wrist accelerometers. In Proceedings of the 8th International Conference on Pervasive Computing Technologies for Healthcare, pp. 80-87. ICST (Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering).

Abstract Presentations at Refereed Conference	S. Intille, D. John, R. Troiano, Q. Tang, and B. Thapa Chhetry, "Processing Terabytes of NHANES and NNYFS Wrist Accelerometer Data for Public Access," at the 2019 Annual Meeting of the American College of Sports Medicine (ACSM), May 2019. R.P. Troiano, D. John, Q. Tang, B. Chhetry and S.S. Intille, "NHANES and NNYFS Wrist Accelerometer Data: Processing Terabytes of Data for Public Access" in the International Society for Physical Activity and Health Annual Conference (London, England), October 2018.
Paper Presentation at Refereed Workshop	Aditya Ponnada, Seth Cooper, Qu Tang, Binod Thapa-Chhetry, Josh Miller, Dinesh John, and Stephen Intille. (2021, March). A Tool to Explore and Annotate Multi-day Raw Accelerometer Data. In 2021 IEEE International Conference on Pervasive Computing and Communications Workshops (PerCom Workshops). IEEE (To appear). *Spotlight presentation* Q. Tang, A. Ponnada, S. Intille, "Towards Personal Hand Hygiene Detection in Free-living Using Wearable Sensors," at the Machine Learning for Mobile Health NeurIPS 2020 Workshop (Online virtual), December 2020.
Invited Talks or Symposiums	"Screening and summarizing 7TB wrist-worn accelerometer data for NHANES and NNYFS", Northeastern University PHI Seminar Speaker Series, Boston, MA, October 31, 2018.
Invited Seminars	Invited Ph.D. Student. Ph.D. data science immersion program with a two-day hackathon on "Predicting customer conversion rate of T.V. advertising", Wayfair LLC, Boston, MA, January 8-12, 2018.
Teaching-Advising	Northeastern University Research experiences for undergraduates (REU-D3): Gilbert Liang (2019), Ryan Cleary (2018).
Teaching-Assisting	Northeastern University CS 4300: Computer Graphics A project-oriented, intermediate course on computer graphics for senior undergraduates. Spring, 2016.
Other Interests	Cooking, outdoor activities.
Citizenship	China P.R.