

## Catherine Tong

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CONTACT	Wolfson Building Department of Computer Science University of Oxford Oxford, UK OX1 3QD	E-mail: <a href="mailto:egctong@gmail.com">egctong@gmail.com</a> Webpage: <a href="http://egctong.github.io">egctong.github.io</a>
RESEARCH INTERESTS	<i>Areas:</i> ubiquitous health monitoring, wearable cameras, machine learning for healthcare, multimodal learning. My current research focuses on developing machine learning methods for modelling complex human behaviours and problems in healthcare. I am particularly interested in developing versatile and robust methods which can leverage multi-modalities and domain knowledge.	
EDUCATION	<b>Computer Science</b> , University of Oxford <i>Doctor of Philosophy (DPhil)</i> • Theme: Machine Learning on Human Behavioural Data • Supervised by Associate Prof. Nicholas D. Lane <b>Physics</b> , University of Oxford <i>Master of Physics, First Class Honours</i> • Major Options: Theoretical Physics, Atmospheric Physics • Thesis: <i>Stochastic Labour Flows in Multiplex Networks</i> • Other project: <i>Photometric and Evolutionary Analysis of Eclipsing Binary RCMA</i>	2017 - 2021 (expected)      2013 - 2017
AWARDS	ACM SIGCHI Travel Award EPSRC DPhil (PhD) Scholarship Examiners' Commendation for Best Practical Work in Physics College Scholarship for Outstanding Performance in Physics Exams	2018 2017-2021 2016 2013-2017
PUBLICATIONS	<b>C. Tong</b> , S. A. Taylor, ND. Lane. <b>Are Accelerometers for Activity Recognition a Dead-end?</b> The 21st International Workshop on Mobile Computing Systems and Applications (Hotmobile '20), 2020  <b>C. Tong</b> , M. Craner, M. Vegreville, ND. Lane. <b>Tracking Fatigue and Health State in Multiple Sclerosis Patients Using Connected Wellness Devices.</b> Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT), Volume 3 Issue 3. Also in Ubicomp '19 and MobiUK '19, 2019  V. Tseng, S. Bhattacharya, J. Fernández Marqués, M. Alizadeh, <b>C. Tong</b> , ND. Lane. <b>Deterministic Binary Filters for Convolutional Neural Networks.</b> The 27th International Joint Conference on Artificial Intelligence (IJCAI '18), 2018  V. Radu, <b>C. Tong</b> , S. Bhattacharya, ND. Lane, C. Mascolo, MK. Marina, F. Kawsar, 2017. <b>Multimodal Deep Learning for Activity and Context Recognition.</b> Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT), Volume 1 Issue 4. Also in Ubicomp '18 and MobiUK '18, 2018  <b>C. Tong</b> , O. Guerrero, E. Lopez, F. Reed-Tsochas, 2017. <b>Diffusing Workers in a Multiplex World.</b> Preprint at SSRN:3056730, 2017  <b>Poster: Inference of Big-Five Personality Using Large-scale Networked Mobile and Appliance Data.</b> <b>C. Tong</b> , GM. Harrari, A. Chieh, O. Bellahsen, M. Vegreville, E. Roitmann, ND. Lane. The 15th ACM International Conference on Mobile Systems, Applications, and Services (MobiSys '18), 2018	

WORK EXPERIENCE	<b>Microsoft Research Cambridge</b> , Research Intern      Cambridge, UK, 06-09/2019
	<ul style="list-style-type: none"> <li>• Conducted research on machine learning in healthcare.</li> </ul>
	<b>Nokia Bell Labs</b> , Research Assistant      Cambridge, UK, 07-09/2017
	<ul style="list-style-type: none"> <li>• Trained neural networks for analyzing daily human behavioural data collected with smart mobile and home appliances;</li> <li>• Analyzed the use of different multimodal deep learning models for activity and context recognition.</li> </ul>
	<b>University of Oxford</b> , Research Assistant      Oxford, UK, 05-07/2017 Saïd Business School   Centre for Complex Agent-Based Dynamic Networks (CABDyN)
	<ul style="list-style-type: none"> <li>• Formulated and solved an agent-based Markov model on multiplex networks to describe the movement of labour across the economy;</li> <li>• Data analysis and model implementation on UK labour survey data.</li> </ul>
	<b>Mercer</b> , Consultant Intern      London, 06-08/2015
	<ul style="list-style-type: none"> <li>• Quantitative analysis of employee benefits schemes for multinational companies.</li> </ul>
SELECTED ACTIVITIES	Membership Co-chair, N2Women Board      2019 - present
	Industry Events Organizer, Oxford Women in CS Society,      2019 - present
	Teaching Assistant, <i>Foundamentals of Sensing</i> (for PhD students)      2020
	Organizer, Oxford Women in CS Distinguished Speakers Seminar Series,      2017 - 2019
	Co-organizer, the 1st Oxford Emerging Tech Party      2018
	Undergraduate Mentor, Oxford Women in Physics Society      2014 -2017
	Volunteer Tutor, Jacari (providing free home tutoring to children)      2014-2015
	Private Tutor in Mathematics and Physics      2011 - present
RELEVANT SKILLS	<ul style="list-style-type: none"> <li>• Proficient in Python, PyTorch, TensorFlow, Keras, L<sup>A</sup>T<sub>E</sub>X, git</li> <li>• Experienced in MATLAB, SQL, JavaScript, HTML</li> </ul>
ACADEMIC REFERENCES	<p><b>Nicholas Lane</b> (<a href="mailto:nicholas.lane@cs.ox.ac.uk">nicholas.lane@cs.ox.ac.uk</a>) Associate Professor, Computer Science, University of Oxford</p> <p><b>Joseph Conlon</b> (<a href="mailto:joseph.conlon@physics.ox.ac.uk">joseph.conlon@physics.ox.ac.uk</a>) Professor, Theoretical Physics, University of Oxford</p> <p><b>Eduardo Lopez</b> (<a href="mailto:elopez22@gmu.edu">elopez22@gmu.edu</a>) Assistant Professor, Computational and Data Sciences, George Mason University</p>