

Catherine Tong

CONTACT INFORMATION	Wolfson Building Department of Computer Science University of Oxford Oxford, UK OX1 3QD	Mobile: +44 7984340665 E-mail: egctong@gmail.com
RESEARCH INTERESTS	<i>Areas:</i> ubiquitous health monitoring, machine learning on graphs, multimodal learning. My current research focuses on developing machine learning methods for modelling complex human behaviours and problems in healthcare. I am particular interested in developing versatile and robust methods which can leverage graphs, multi-modalities, and domain knowledge.	
EDUCATION	Computer Science , University of Oxford 2017 - 2021 (expected) <i>Doctor of Philosophy (DPhil), Machine Learning with Healthcare Applications</i> <ul style="list-style-type: none">Supervised by Associate Prof. Nicholas D. Lane Physics , University of Oxford 2013 - 2017 <i>Master of Physics, First Class Honours</i> <ul style="list-style-type: none">Major Options: Theoretical Physics, Atmospheric PhysicsThesis: <i>Labour Flows on Multiplex Networks</i>Other project: <i>Photometric and Evolutionary Analysis of Eclipsing Binary RCMA</i>	
AWARDS	Travel Award by the ACM Special Interest Group on Computer-Human Interaction (SIGCHI) 2018 Examiners' Commendation for Best Practical Work in Physics 2016 College Scholarship for Outstanding Performance in Physics Exams 2013-2017	
PUBLICATIONS	<p>[Under Review] Topology Matters: Understanding How Network Topological Features Impact Graph Neural Networks. C. Tong, V. Kothari, ND. Lane, 2019.</p> <p>[Under Review] In-the-wild Sensing with Connected Wellness Devices: A Personality Inference Case Study. C. Tong, GM. Harrari, A. Chieh, O. Bellahsen, M. Vegreville, E. Roitmann, ND. Lane, 2019.</p> <p>[Under Review] Tracking Fatigue and Health State in Multiple Sclerosis Patients Using Ubiquitous Sensing. C. Tong, M. Craner, A. Chieh, O. Bellahsen, M. Vegreville, E. Roitmann, ND. Lane, 2018.</p> <p>Poster: Inference of Big-Five Personality Using Large-scale Networked Mobile and Appliance Data. C. Tong, GM. Harrari, A. Chieh, O. Bellahsen, M. Vegreville, E. Roitmann, ND. Lane, 2018. <i>The 15th ACM International Conference on Mobile Systems, Applications, and Services (MobiSys '18)</i></p> <p>Deterministic Binary Filters for Convolutional Neural Networks. V. Tseng, S. Bhattacharya, J. Fernández Marqués, M. Alizadeh, C. Tong, ND. Lane, 2018. <i>The 27th International Joint Conference on Artificial Intelligence (IJCAI '18)</i></p> <p>Multimodal Deep Learning for Activity and Context Recognition. V. Radu, C. Tong, S. Bhattacharya, ND. Lane, C. Mascolo, MK. Marina, F. Kawsar, 2017. <i>Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT), Volume 1 Issue 4.</i> Also in <i>Ubicomp '18</i> and <i>MobiUK '18</i>.</p>	

Diffusing Workers in a Multiplex World. C. Tong, O. Guerrero, E. Lopez, F. Reed-Tsochas, 2017. *Preprint at [SSRN:3056730](#)*.

WORK EXPERIENCE	Nokia Bell Labs , Research Assistant	Cambridge, 07-09/2017
	<ul style="list-style-type: none"> • Trained neural networks for analyzing daily human behavioural data collected with smart mobile and home appliances; • Analyzed the use of different multimodal deep learning models for activity and context recognition. 	
	University of Oxford , Research Assistant	Oxford, 05-07/2017
	Saïd Business School Centre for Complex Agent-Based Dynamic Networks (CABDyN)	
	<ul style="list-style-type: none"> • Formulated and solved an agent-based Markov model on multiplex networks to describe the movement of labour across the economy; • Data analysis and model implementation on UK labour survey data. 	
	Mercer , Consultant Intern	London, 06-08/2015
	<ul style="list-style-type: none"> • Analysis of employee insurance benefits for multinational companies. 	
SELECTED ACTIVITIES	Membership Co-chair, N2Women Board	2019 - present
	Organizer, Oxford Women in CS Distinguished Speakers Seminar Series,	2017 - present
	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"> • Proficient in Python, TensorFlow, L^AT_EX, git • Experienced in MATLAB, SQL, Keras, vim 	
ACADEMIC REFERENCES	Nic Lane (nicholas.lane@cs.ox.ac.uk)	
	Associate Professor, Computer Science, University of Oxford	
	Eduardo Lopez (elopez22@gmu.edu)	
	Assistant Professor, Computational and Data Sciences, George Mason University	
	Joseph Conlon (joseph.conlon@physics.ox.ac.uk)	
	Professor, Theoretical Physics, University of Oxford	