

Li Kevin Wenliang

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Education

Gatsby Computational Neuroscience Unit, University College London, PhD candidate **2015 – present**

- ♦ Supervised by **Prof. Maneesh Sahani** (primary) and **Prof. Peter Dayan** (secondary)
- ♦ **PhD Thesis: dynamic inference using distributed representation of uncertainty**
 - State-space models: inference and learning of exponential family conditionals
 - Representation of uncertainty in neural networks trained with supervision
 - Human perception as inference: theory on how the brain may encode uncertainty in the environment
- ♦ **Other research: density estimation and biological perception**
 - Deep kernel exponential family density estimator trained using score matching
 - Perceptual learning modelled by deep neural networks and Bayesian inference

University of Cambridge, Trinity College Information and Computer Engineering **2010 - 2014**

- ♦ B.A. (1st Hon.) and M.Eng. (Distinction), scholarship £18,510 p.a. for 4 years, College Senior Scholar
- ♦ Ranked within top 10 of the year for 1st, 2nd and 4th years (3rd year at MIT)
- ♦ Thesis: inference and learning on nonlinear state space model for neural spiking data, **Dr. Máté Lengyel**

Massachusetts Institute of Technology **2012 - 2013**

- ♦ GPA: 4.9/5.0, Cambridge-MIT Exchange in Electrical Engineering and Computer Science.

Publications

- ♦ Li Wenliang, **M. Sahani**, Plausible model for online recognition and postdiction in dynamic environment, submitted
- ♦ Li Wenliang*, D. Sutherland*, H. Strathmann, **A. Gretton**, *Learning deep kernels for exp. fam. densities*, ICML, 2019.
- ♦ Li Wenliang, E. Vertés, **M. Sahani**, *Accurate and adaptive recognition*, COSYNE 2019 (top 6%)
- ♦ Li Wenliang, **A. Seitz**, *Deep neural network for modelling visual perceptual learning*, J. of Neurosci. 2018
- ♦ Li Wenliang, **M. Sahani**, Neural network represents uncertainty by nonlinear moments, in prep, COSYNE 2018
- ♦ C. Liu, Wenliang Li, et al., *Grasp planning by human experience on objects with complex geometry* (IROS) 2015

Experience

Machine Learning Summer School, teaching assistant **2019**

Brains, Minds and Machines Summer School **Aug 2016**

Project: human perception of object stability, with **Prof Josh Tenenbaum**

Illume Research **Dec 2016 – present**

Mentor, part-time, teaching elementary machine learning and programming to high school students

Tsinghua University

Research Intern, with **Prof Funchun Sun** at Lab of Intelligent Systems **Dec 2014 – Mar 2015**

- ♦ Non-parametric 3D object representation effective for identification and part segmentation

Microsoft Research Cambridge **July - Oct 2014**

Research Intern, with **Dr. Sebastian Nowozin** (Machine Learning & Perception Group)

- ♦ Complex road networks recognition from satellite images of forests by marked point process

Other experiences

- ♦ Microsoft R&D Shanghai, program manager in commerce platform (2013)
- ♦ Swiftkey (2011), research intern in natural language processing for non-whitespace languages

Skills

- ♦ **Programming:** Python (TensorFlow, PyTorch, Caffe), Julia, MatLab, C/C++, Ruby, HTML/CSS, JavaScript
- ♦ **Languages:** English – fluent Mandarin – native