

## Thang Bui

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## Education

- **University of Cambridge** Cambridge, UK  
*PhD in Engineering* Sept 2013 - expected mid 2017
  - Research area: Machine Learning, Signal Processing, Control
  - Supervisor: Dr. [Richard Turner](#)
  - Advisor: Prof. [Carl Rasmussen](#)
  - Awarded Google European Doctoral Fellowship 2015
- **University of Adelaide** Adelaide, Australia  
*Bachelor of Engineering* August 2008 - Dec 2011
  - Major in Telecommunications and Computer Science, with First Class Honours
  - Awarded **University Medal** for Outstanding Academic Achievements (4 medals/approx. 500 engineering graduates)
  - Final Project: Through-the-wall Imaging Radar

## Work Experience

- **Google Research** Mountain View, CA, US  
*Research intern* June 2016 - Sept 2016
  - Worked with [Sujith Ravi](#) on neural networks and semi-supervised learning.
- **Dept. of Engineering, Cambridge** Cambridge, UK  
*Teaching Assistant* October 2013 - current
  - Co-supervised undergraduate and postgraduate projects.
  - Assisted with teaching activities, lab demonstration and marking.
- **Toshiba Cambridge Research Lab** Cambridge, UK  
*Research Intern* July 2014 - Sept 2014
  - Researched in automatic speech recognition.
- **Telari/Teletraffic Research Centre, University of Adelaide** Adelaide, Australia  
*Research Associate* March 2012 - August 2013
  - Researched in mobile, wired and wireless technologies.
  - Part of a small team developing a mobile network dimensioning software.
- **CISRA, Canon Australia** Sydney, Australia  
*Research Intern* Dec 2011 - March 2012
  - Project: Speeding up SLIC superpixel segmentation.
- **University of New South Wales** Sydney, Australia  
*Research Intern* Nov 2010 - Feb 2011
  - Project: Signal Processing for Cochlear Implant - A Smart Channel Selection.
- **University of Adelaide** Adelaide, Australia  
*Research Intern* Dec 2009 - Feb 2010
  - Project: Real-time Facial Expression Recognition.

## Publications

- Black-box  $\alpha$ -divergence minimisation** José Miguel Hernández-Lobato, Yingzhen Li, Mark Rowland, Daniel Hernández-Lobato, Thang Bui and Rich Turner, *International Conference on Machine Learning 2016*.
- Deep Gaussian Processes for Regression using Approximate Expectation Propagation** Thang Bui, José Miguel Hernández-Lobato, Yingzhen Li, Daniel Hernández-Lobato and Rich Turner, *International Conference on Machine Learning 2016*.
- Learning Stationary Time Series using Gaussian Processes with Nonparametric Kernels**, Feliper Tobar, Thang Bui and Richard Turner, *Advances in Neural Information Processing Systems 28*, Montreal, 2015. [spotlight, acceptance rate = 3.6%]
- Tree-structured Gaussian Process Approximations**, Thang Bui and Richard Turner, *Advances in Neural Information Processing Systems 27*, Montreal, 2014. [spotlight, acceptance rate = 3.6%]

## Pre-prints

**Neural Graph Machines: Learning Neural Networks Using Graphs**, Thang Bui, Sujith Ravi and Vivek Ramavajjala, *submitted to ICLR 2017*.

**A unifying framework for sparse Gaussian process approximations using Power Expectation Propagation**, Thang Bui, Josiah Yan, and Richard Turner. <http://arxiv.org/abs/1605.07066>

## Workshop papers

**Black-box  $\alpha$ -divergence for Deep Generative Models**, Thang Bui, José Miguel Hernández-Lobato, Daniel Hernández-Lobato, Yingzhen Li, and Richard Turner, *NIPS Workshop on Advances in Approximate Bayesian Inference*, Barcelona, 2016.

**Importance Weighted Autoencoders with Uncertain Neural Network Parameters**, Daniel Hernández-Lobato, Thang Bui, José Miguel Hernández-Lobato, Yingzhen Li, and Richard Turner, *NIPS Workshop on Advances in Approximate Bayesian Inference*, Barcelona, 2016.

**Circular Pseudo-Point Approximations for Scaling Gaussian Processes**, William Tebbutt, Thang Bui, and Richard Turner, *NIPS Workshop on Advances in Approximate Bayesian Inference*, Barcelona, 2016.

**Bayesian Gaussian process state space models via power expectation propagation**, Thang Bui, Carl E. Rasmussen, and Richard Turner, *ICML Workshop on Data-efficient Machine Learning*, 2016.

**Training deep GPs using stochastic expectation propagation and probabilistic backpropagation**, Thang Bui, José Miguel Hernández-Lobato, Yingzhen Li, Daniel Hernández-Lobato and Richard Turner, *NIPS Workshop on Advances in Approximate Bayesian Inference*, Montreal, 2015. <http://arxiv.org/abs/1511.03405>

**SVI for GP latent variable models using back constraints**, Thang Bui and Rich Turner, *NIPS Workshop on Black Box Learning and Inference*, Montreal, 2015.

**Black-box  $\alpha$ -divergence minimisation**, José Miguel Hernández-Lobato, Yingzhen Li, Daniel Hernández-Lobato, Thang Bui and Richard Turner, *NIPS Workshops on Advances in Approximate Bayesian Inference and Black Box Learning and Inference*, Montreal, 2015. <http://arxiv.org/abs/1511.03243> **Spotlight**

**Stochastic expectation propagation for large scale Gaussian process classification**, Daniel Hernández-Lobato, José Miguel Hernández-Lobato, Yingzhen Li, Thang Bui and Rich Turner, *NIPS Workshop on Advances in Approximate Bayesian Inference*, Montreal, 2015. <http://arxiv.org/abs/1511.03249> **Oral**

**Design of covariance functions using inter-domain inducing variables**, Felipe Tobar, Thang Bui and Rich Turner, *NIPS Workshop on Time Series*, Montreal, 2015. **Best paper prize**

## Prizes and Awards

Google European Doctoral Fellowship, 2015-2017

Travel grant for NIPS, 2014, 2015

Travel grant for the Machine Learning Summer School, 2014

The 2011 Adelaide University Medal

Nomination for the Award of the Institute of Engineers Australia, 2011

The E.V. Clarke Prize in Electrical and Electronic Engineering, 2010

Dean's Merit Certificate, Adelaide University, 2009, 2010, 2011

Summer Research Scholarship, University of New South Wales, 2010

Summer Research Scholarship, Adelaide University, 2009

**Gold** medal in 38<sup>th</sup> International Physics Olympiad, Isfahan, Iran, July, 2007

**Silver** medal in 8<sup>th</sup> Asian Physics Olympiad, Shanghai, May, China, 2007

Vietnamese Young Achiever Award, 2007

## Talks

**Deep Gaussian processes and approximate expectation propagation**, Google DeepMind and MSR Cambridge, March 2016.

**Learning by learning rich generative models**, Machine Learning group, Cambridge, February 2016.

**Deep Gaussian processes**, Machine Learning group, Cambridge, March 2015.

**State space abstraction for reinforcement learning**, Machine Learning group, Cambridge, November 2014 [with Rowan McAllister].

**Tree-structured Gaussian process approximations**, Machine Learning group, Cambridge, July 2014.

**Advanced Gaussian process approximations**, Machine Learning group, Cambridge, May 2014 [with Richard Turner].

**Introduction to sequential Monte Carlo methods**, Machine Learning group, Cambridge, February 2014 [with Jes Frellsen].

## Skills

**Languages:** Vietnamese, English, Python, MATLAB, Java.

Last modified: November 23, 2016