

Wittawat Jitkrittum

Postdoctoral Researcher at Max Planck Institute for Intelligent Systems

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Education

- 2013 – 2017 **PhD in Machine Learning**
Gatsby Unit, University College London (UCL)
Thesis: Kernel-based distribution features for statistical tests and Bayesian inference
Supervisor: Arthur Gretton
- 2010 – 2012 **MEng in Computer Science**
Tokyo Institute of Technology
CGPA: 3.67/4.00 (*honors*)
Thesis: Feature selection via L_1 -penalized squared-loss mutual information
Supervisor: Masashi Sugiyama
- 2005 – 2009 **BSc in Computer Science**
Sirindhorn International Institute of Technology (SIIT), Thammasat University
CGPA: 3.93/4.00 (*first class honors, silver medal award*)
Thesis: Question Answering System for Thai Wikipedia
Supervisor: Thanaruk Theeramunkong
- 2004 – 2005 **Intensive Japanese Language Program**
Waseda Education Thailand (*full scholarship*)

Academic Experience

- 3/2017, 3/2016 **Visiting Researcher** with Prof. Kenji Fukumizu
The Institute of Statistical Mathematics, Japan
- 2014, 2016 **Graduate Course Teaching Assistant** at UCL
- Approximate Inference and Learning in Probabilistic Models
 - Reproducing Kernel Hilbert Spaces for Machine Learning
- 2012 – 2013 **Lab Instructor** at SIIT
Prepared class materials and led hands-on programming sessions.
- Basic Programming in C
 - Object Oriented Programming in Java
 - Database Systems and Web Development (with PHP & MySQL)
- Overall teaching evaluation: 4.8/5.0. Class size: 30-50.
- 2009 – 2010 **Research Assistant** with Prof. Thanaruk Theeramunkong
SIIT, Thammasat University
Research: association rule mining, text retrieval.
- 2007 – 2008 **Research Assistant** with Dr. Choochart Haruechaiyasak
Human Language Technology Lab, National Electronics and Computer Technology Center (NECTEC), Thailand
Research: offline search engine, automatic news categorization.

Services

Publicity Chair AISTATS 2016

Journal Reviewer JMLR

Conference Reviewer

- NeurIPS 2015-2018
- ICML 2016-2019
- AISTATS 2017-2019
- ACML 2017
- ICLR 2017

Workshop Reviewer

- NeurIPS Workshop on Advances in Approximate Bayesian Inference 2015-2017.
- NeurIPS Workshop on Machine Learning Open Source Software 2018

2019

Committee Involvement

- Selection committee for The Max Planck ETH Center for Learning Systems (CLS) PhD fellowship program.
- Selection committee for International Max Planck Research School for Intelligent Systems (IMPRS-IS) PhD program.
- Selection committee for Cambridge-Tübingen Machine Learning PhD Program.

2014 – 2017

Machine Learning Journal Club Organizer

Gatsby Unit, University College London

Awards

12/2017

NeurIPS 2017 Best Paper Award

Awarded to 3 out of 3240 submissions to NeurIPS 2017.

Media coverage as podcast by TWiML & AI (<https://goo.gl/3nkL7Q>).

2013 – 2017

Gatsby Unit Studentship

Full scholarship with stipend for PhD study. Awarded to 2-4 students per year.

2010 – 2012

Okazaki Kaheita Scholarship

Full scholarship with stipend for master study. Awarded to one Thai student once every three years.

2010

Second Prize at National Software Contest (NSC) 2010

Project: Thai Text Tokenization with a Binary Classifier

Category: Thai Language Processing

2009

Second Prize at National Software Contest (NSC) 2009

Project: Question Answering System for Thai Wikipedia

Category: Software for Scientific Development

2009

Honor Award from His Majesty King Bhumibol Adulyadej

Awarded to one student with the highest GPA in the department

Grants

2017

NeurIPS Travel Award: \$1200.

2017

ICML Travel Award: \$1800.

2009

Financial support from Young Scientist and Technologist Programme
National Science and Technology Development Agency (NSTDA)
For project “Question answering system for Thai Wikipedia”.

Invited Talks

- 2018 Recent Advances in Kernel Methods for Model Criticism
Vidyasirimedhi Institute of Science and Technology (VISTEC)
- Machine Learning Fundamentals I
Vidyasirimedhi Institute of Science and Technology (VISTEC)
- Introduction to Kernel Methods for Comparing Distributions
Bangkok Machine Learning Meetup
- A Linear-Time Kernel Goodness-of-Fit Test
The Workshop on Functional Inference and Machine Intelligence (FIMI).
- 2017 A Linear-Time Kernel Goodness-of-Fit Test
Department of Computer Science, University of Bristol
- Code Demo: A Linear-Time Kernel Goodness-of-Fit Test
MLTrain Workshop: Learn How to Code a Paper at NeurIPS 2017
- An Adaptive Test of Independence with Analytic Kernel Embeddings
The 2nd Probabilistic Graphical Model Workshop, The Institute of Statistical Mathematics
- 2016 Interpretable Distribution Features With Maximum Testing Power
Sugiyama-Sato Lab, University of Tokyo
- Improving Approximate Bayesian Inference with Kernel Methods
Probabilistic Graphical Model Workshop, The Institute of Statistical Mathematics

Skills

- Most Experienced: Python, Matlab
- Experienced: Pytorch, Java, C, PHP & MySQL, HTML/CSS/Javascript
- Some Experience: C# (Infer.NET), Theano, TensorFlow, Mathematica
- Languages Thai (native), English (fluent), Japanese (intermediate), Chinese (elementary)

Publications

Source code for most of the following publications is released at <https://github.com/wittawatj>.

Preprints

1. Arash Mehrjou, **Wittawat Jitkrittum**, Bernhard Schölkopf, and Krikamol Muandet. Witnessing Adversarial Training in Reproducing Kernel Hilbert Spaces. *ArXiv*, January 2019
2. Damien Garreau, **Wittawat Jitkrittum**, and Motonobu Kanagawa. Large sample analysis of the median heuristic. *ArXiv*, October 2018
3. Song Liu, **Wittawat Jitkrittum**, and Carl Henrik Ek. Model Inference with Stein Density Ratio Estimation. *ArXiv*, May 2018

Journal Articles

1. Kiyohito Igaya, Aurelie Jolivald, **Wittawat Jitkrittum**, Iain Gilchrist, Peter Dayan, Elizabeth Paul, and Mike Mendl. Cognitive bias in ambiguity judgements: Using computational models to dissect the effects of mild mood manipulation in humans. *Plos One*, 2016
2. Makoto Yamada, **Wittawat Jitkrittum**, Leonid Sigal, Eric P. Xing, and Masashi Sugiyama. High-dimensional feature selection by feature-wise kernelized lasso. *Neural Computation*, 26(1), 2014
3. **Wittawat Jitkrittum**, Hirotaka Hachiya, and Masashi Sugiyama. Feature selection via ℓ_1 -penalized squared-loss mutual information. *IEICE Transactions*, 96-D(7):1513–1524, 2013

Peer-Reviewed Conference Papers

1. **Wittawat Jitkrittum**, Heishiro Kanagawa, Patsorn Sangkloy, James Hays, Bernhard Schölkopf, and Arthur Gretton. Informative features for model comparison. In *NeurIPS*, 2018
2. **Wittawat Jitkrittum**, Wenkai Xu, Zoltán Szabó, Kenji Fukumizu, and Arthur Gretton. A linear-time kernel goodness-of-fit test. In *NeurIPS*, 2017. (Best paper award, 3 out of 3240 submissions)
3. **Wittawat Jitkrittum**, Zoltán Szabó, and Arthur Gretton. An adaptive test of independence with analytic kernel embeddings. In *ICML*, 2017
4. **Wittawat Jitkrittum**, Zoltán Szabó, Kacper Chwialkowski, and Arthur Gretton. Interpretable distribution features with maximum testing power. In *NeurIPS*, 2016. (Oral presentation, 1.8%)
5. Mijung Park*, **Wittawat Jitkrittum***, and Dino Sejdinovic. K2-ABC: Approximate Bayesian computation with kernel embeddings. In *AISTATS*, 2016. (*The first two authors contributed equally. Oral presentation, 6.5%*)
6. Mijung Park, **Wittawat Jitkrittum**, Ahmad Qamar, Zoltán Szabó, Lars Buesing, and Maneesh Sahani. Bayesian manifold learning: The locally linear latent variable model. In *NeurIPS*, 2015. (Acceptance rate: 21.8%)
7. **Wittawat Jitkrittum**, Arthur Gretton, Nicolas Heess, S. M. Ali Eslami, Balaji Lakshminarayanan, Dino Sejdinovic, and Zoltán Szabó. Kernel-based just-in-time learning for passing expectation propagation messages. In *UAI*, 2015
8. Gang Niu, **Wittawat Jitkrittum**, Bo Dai, Hirotaka Hachiya, and Masashi Sugiyama. Squared-loss mutual information regularization: A novel information-theoretic approach to semi-supervised learning. In *ICML*, 2013
9. **Wittawat Jitkrittum**, Thanaruk Theeramunkong, and Choochart Haruechaiyasak. Proximity-based semantic relatedness measurement on Thai Wikipedia. In *International Conference on Knowledge, Information and Creativity Support Systems (KICSS)*, 2008
10. Choochart Haruechaiyasak, Chatchawal Sangkeettrakarn, and **Wittawat Jitkrittum**. Managing offline educational web contents with search engine tools. In *International Conference on Asia-Pacific Digital Libraries*, 2007

Workshop Papers

1. Vincent Adam, Joana Soldado-Magraner, **Wittawat Jitkrittum**, Heiko Strathmann, Balaji Lakshminarayanan, Alessandro Davide Ialongo, Gergo Bohner, Ben Dongsung Huh, Lea Goetz, Shaun Dowling, Julian Vlad Serban, and Matthieu Louis. Performance of synchrony and spectral-based features in early seizure detection: exploring feature combinations and effect of latency. *International Workshop on Seizure Prediction (IWSP) 2015: Epilepsy Mechanisms, Models, Prediction and Control*, 2015
2. **Wittawat Jitkrittum**, Choochart Haruechaiyasak, and Thanaruk Theeramunkong. QAST: question answering system for Thai Wikipedia. In *Proceedings of the 2009 Workshop on Knowledge and Reasoning for Answering Questions*, KRAQ '09. ACL, 2009
3. Choochart Haruechaiyasak, **Wittawat Jitkrittum**, Chatchawal Sangkeettrakarn, and Chaianun Damrongrat. Implementing news article category browsing based on text categorization technique. In *Web Intelligence/IAT Workshops*, 2008

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