ANDREW GAMBARDELLA

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EDUCATION

University of Oxford   January 2017 - November 2021
Oxford, United Kingdom
Doctor of Philosophy in Engineering Science
St. Catherine's College
Supervisor: Professor Philip H. S. Torr

University of California, Berkeley   August 2010 - December 2013
Berkeley, California, United States of America
Major in Electrical Engineering and Computer Science
Minors in Mathematics and Japanese

Central Bucks High School West   August 2007 - May 2010
Doylestown, Pennsylvania, United States of America

PROFESSIONAL EXPERIENCE

University of Tokyo   August 2023 -
Bunkyou, Tokyo, Japan
Postdoctoral Researcher
Supervisor: Professor Yutaka Matsuo

KAIST   March 2022 - March 2023
Yuseong, Daejeon, South Korea
Visiting Researcher/Postdoctoral Researcher
Supervisor: Professor Jinjoon Lee

Cogent Labs (formerly Reactive, Inc.)   July 2016 - December 2016
Shibuya, Tokyo, Japan
Research Engineer

SoftBank Robotics   April 2015 - May 2016
Minato, Tokyo, Japan
Research Engineer

UC Berkeley   August 2012 - March 2015
Berkeley, California, United States of America
Undergraduate Researcher
Supervisor: Professor Satish Rao

PUBLICATIONS

Which Programming Language and What Features at Pre-training Stage Affect Downstream Logical Inference Performance?. Fumiya Uchiyama, Takeshi Kojima, **Andrew Gambardella**, Qi Cao, Yusuke Iwasawa, Yutaka Matsuo. In Proceedings of the 2024 Conference on Empirical Methods in Natural Language Processing, 2024.

Real-World Robot Applications of Foundation Models: A Review. Kento Kawaharazuka, Tatsuya Matsushima, **Andrew Gambardella**, Jiaxian Guo, Chris Paxton, Andy Zeng. Advanced Robotics, 2024.

Language Models Do Hard Arithmetic Tasks Easily and Hardly Do Easy Arithmetic Tasks. **Andrew Gambardella**, Yusuke Iwasawa, Yutaka Matsuo. In Proceedings of the 62nd Annual Meeting of the Association for Computational Linguistics (Volume 2: Short Papers), 2024.

gOd, mOther and sOldier: A Story of Oppression, Told Through the Lens of AI. **Andrew Gambardella**, Meeyung Chung, Doyo Choi, Jinjoon Lee. Leonardo, 2023.

Deep Transfer Learning with Bayesian Inference. **Andrew Gambardella**. DPhil Thesis, 2021

Detecting and Quantifying Malicious Activity with Simulation-based Inference. **Andrew Gambardella**, Bogdan State, Naeemullah Khan, Leo Tsourides, Philip H. S. Torr, Atılım Güneş Baydin. In International Conference on Machine Learning: Workshop on Socially Responsible Machine Learning, 2021.

Hierarchical Semantic Sonification for the Visually Impaired. **Andrew Gambardella**, Jinjoon Lee. In IJCAI: Workshop on Artificial Intelligence for Social Good, 2021.

Simulation-Based Inference for Global Health Decisions. Christian Schroeder de Witt, Bradley Gram-Hansen, Nantas Nardelli, **Andrew Gambardella**, Rob Zinkov, Puneet Dokania, N. Siddharth, Ana Belen Espinosa-Gonzalez, Ara Darzi, Philip Torr, Atılım Güneş Baydin. In International Conference on Machine Learning Workshop: ML for Global Health, 2020.

Multitask Soft Option Learning. Maximilian Igl, **Andrew Gambardella**, Nantas Nardelli, N. Siddharth, Wendelin Böhmer, Shimon Whiteson. In Uncertainty in Artificial Intelligence, 2020.

PREPRINTS

Inconsistent Tokenizations Cause Language Models to be Perplexed by Japanese Grammar. **Andrew Gambardella**, Takeshi Kojima, Yusuke Iwasawa, Yutaka Matsuo. In submission, 2024.

Crypto-LLM: Two-Stage Language Model Pre-training with Ciphered and Natural Language Data. Yohei Kobashi, Takeshi Kojima, **Andrew Gambardella**, Qi Cao, Yusuke Iwasawa, Yutaka Matsuo. In submission, 2024.

Answer When Needed, Forget When Not: Language Models Pretend to Forget via In-Context Knowledge Unlearning. Shota Takashiro, Takeshi Kojima, **Andrew Gambardella**, Qi Cao, Yusuke Iwasawa, Yutaka Matsuo. In submission, 2024.

Inside Head: Uncertainty Quantification for LLMs based on Internal Discrepancy. Qi Cao, **Andrew Gambardella**, Takeshi Kojima, Yutaka Matsuo, Yusuke Iwasawa. In submission, 2024.

Efficient Data Mosaicing with Simulation-based Inference. **Andrew Gambardella**, Youngjun Choi, Doyo Choi, Jinjoon Lee. ArXiv Preprint, 2023.

Transflow Learning: Few-shot Adaptation for Normalizing Flow Models. **Andrew Gambardella**, Atılım Güneş Baydin, Philip H. S. Torr. ArXiv Preprint, 2019.

PROFICIENCIES

Computer Languages	Python, Lua, Java, C, Scheme, MATLAB
Software & Tools	PyTorch, JAX, NumPy, Pyro, NumPyro
Natural Languages	English (Native), Japanese (Bilingual), Korean (Advanced)

CERTIFICATIONS

Japan Kanji Aptitude Test (Kanji Kentei), Level 2	November 2023
Japanese Language Proficiency Test, N1	December 2014

REVIEWING

ACL Rolling Review	December 2023, June 2024, August 2024
ICML	2022
NeurIPS Preregistration Workshop	2020, 2021

RESEARCH GRANTS

Korea Foundation	March 2022 - October 2022
Meta	January 2020 - December 2020
Microsoft	January 2017 - December 2019

TEACHING

KAIST CTP404, Creative Practice, Teaching Assistant	Fall 2022