Truyen Tran (PhD)

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■ Research Summary

My current research is focused on *machine learning*, *reasoning*, *and data-driven knowledge discovery*. Applications include health, drug discovery, bioinformatics, materials science, chemistry, and software engineering.

■ Professional Activities

★ Employment

Position	Start	End date	Organization
	date		
Associate Professor	3/2018	Present	Applied Artificial Intelligence Institute
			& School of IT, Deakin University
(Senior) Lecturer	3/2014	2/2018	Centre for Pattern Recognition and Data
			Analytics & School of IT, Deakin
			University
Research Fellow	05/2009	2/2014	Centre for Pattern Recognition and Data
			Analytics, Deakin University &
			Department of Computing,
			Curtin University.
Research Consultant	03/2008	04/2009	Freelancer
CIO	01/2008	5/2008	AVA Communications Group
			(Hanoi, Vietnam)
Research Engineer	03/2002	03/2004	Research Institute of Posts and
			Telecommunications
			(Hanoi, Vietnam)

★ Advisory Board Member

Position	Start date	End date	Organization
Member	5/2018	Present	Vietnam National Institute of Software
			and Digital Content Industry - NISCI

★ Membership

• The International Machine Learning Society

★Teaching

- Data science courses at Deakin University, 2017–2018.
- *Healthcare analytics*, a full intensive course at Department of Biomedical Engineering, Hanoi University of Science and Tech, Dec 2013.
- Forecasting methods, a short course for staff of EVNTelecom, 2003.

★ Consulting

- Network anomaly detection, contract for Telstra Australia, 2016-2019.
- Communications demand forecasting in Vietnam 2003-2010, contract for Saigon Postel, 2013.
- Simulation of WLAN & mobile database systems, services for PhD students, 2012-2013.

★ Supervision (Current)

- Hoang-Anh Pham (PhD, Deakin), Video dialog, Start: May 2021.
- Tien-Kha Pham (PhD, Deakin), A theoretical investigation into AI, Start: May 2021.
- Hoang-Long Dang (PhD, Deakin), Learning to reason visually, Start: Feb 2020.
- Tri Nguyen (PhD, Deakin, with Thin Nguyen), *Deep learning for protein folding and drug binding*, Start: Feb 2020.
- Hung Tran (PhD, Deakin, with Vuong Le), *Human behaviour analysis on video*, Start: Jan 2020.
- Duc Nguyen (PhD, Deakin), Representation learning for time-series, Start: Feb 2019.
- Dung Nguyen (PhD, Deakin), Artificial theory of mind, Start: Nov 2018.

★ Supervision (Past)

- Hoang Thanh-Tung (PhD, Deakin), *Toward generalizable deep generative models*, **Completed:** 2021.
- Romero de Morais (PhD, Deakin, with Vuong Le), *Human behaviour understanding in computer vision*, **Completed:** 2021.
- Thao Minh Le (PhD, Deakin), *Deep neural networks for visual reasoning*, **Completed:** 2021, after 2.5 years.
- Hung Le (PhD, Deakin), *Memory and attention in deep learning*, Deakin University, **Completed:** 2020, after just 2 years! **Winner of Deakin's Thesis Award** 2020.
- Kien Do (PhD, Deakin), *Novel deep architectures for representation learning*, Deakin University, **Completed:** 2020.
- Trang Pham (PhD, Deakin), *Recurrent neural networks for structured data*, Deakin University. **Completed:** 2019.
- Shivapratap Gopakumar (PhD, Deakin), *Machine learning in healthcare: An investigation into model stability*, Deakin University. **Completed:** 2017.
- Tu Dinh Nguyen (PhD, Deakin), *Structured representation learning from complex data*, Deakin University. **Completed:** 2015.

★ Reviewing services

Grants: Health Research Council of New Zealand (HRC) 2021

Australian Research Council (ARC), Australia 2020-2021

National Health and Medical Research Council (NHMRC), Australia 2018

Netherlands Organization for Scientific Research, The Netherlands 2017

Abertawe Bro Morgannwg University Health Board & Swansea Medical School Joint

Study Review Committee, UK, 2016

Natural Sciences and Engineering Research Council (NSERC), Canada 2015

National Foundation for Science and Technology Development (NAFOSTED), Viet-

nam 2015-2019

Journals: ACM Intelligent Systems and Technology (2016)

ACM Transactions on Internet Technology (2020)

ACM Transactions on Multimedia Computing, Communications and Applications (2010)

ACM Transactions on Knowledge Discovery from Data (2017-2019)

Artificial Intelligence Journal (2010)

Automated Software Engineering (2017)

Briefings in Functional Genomics (2020)

Computer Communications (2015)

Engineering Applications of Artificial Intelligence (2014)

IEEE Access (2016)

IEEE Transactions on Knowledge and Data Engineering (2012, 2016)

IEEE Transactions on Multimedia (2009-2014)

IEEE Transactions on Neural Networks and Learning Systems (2015)

IEEE Transactions on Pattern Analysis and Machine Intelligence (2021)

IEEE Transactions on Signal and Information Processing over Networks (2015)

IEEE Signal Processing Letters (2014)

Journal of Artificial Intelligence Research (2021)

Knowledge-based System (2016)

Neurocomputing (2014, 2015)

Science and Technology of Advanced Materials (2019)

Conferences: (Senior TPC)

Asian Conference on Machine Learning, (ACML: 2013-2019)

International Joint Conference on Artificial Intelligence (IJCAI: 2021)

AAAI Conference on Artificial Intelligence (AAIAI: 2022)

Conferences: (TPC)

AAAI Conference on Artificial Intelligence (AAAI: 2005, 2008, 2016–2021)

ACM International Conference on Information and Knowledge Management (CIKM:

2015, 2016)

ACM Multimedia, 2009 (ACMM'09)

ACM SIGIR, 2010 (SIGIR'10)

Asian Conference on Machine Learning (ACML: 2013-2014)

European Conference on Computer Vision (ECCV: 2020)

International Conference on Learning Representation (ICLR: 2018-2022)

International Joint Conference on Artificial Intelligence (IJCAI: 2009, 2015–2019)

International Joint Conference on Machine Learning (ICML: 2017–2022)

Neural Information Processing Systems (NIPS: 2017-2021)

Pacific-Asia Conference on Knowledge Discovery and Data Mining, 2013 (PAKDD'13)

★ Invited Panelist

- Workshop on Deep Learning for Speech Recognition and Related Applications at NIPS-2009, Vancouver, Canada.
- Workshop on Semantic Machine Learning at IJCAI-2017, Melbourne, Australia

★ External Thesis Examination

- A Study on Deep Learning for Natural Language Generation in Spoken Dialogue Systems, PhD thesis, JAIST, Japan, 2018.
- Radar Signal Representation and Classification, PhD thesis, University of Wollongong, Australia, 2013.

★ Invited talks & tutorials

- Artificial intelligence for accelerating drug discovery, AI and Future of Work Festival, Deakin University, Sept 2021.
- Machine learning and reasoning for drug discovery, Tutorial at ECML-PKDD, Sept 2021.
- Neural machine reasoning, Tutorial at IJCAI, August 2021.
- From deep learning to deep reasoning, Tutorial at KDD, August 2021.
- Deep learning 1.0 and beyond, Tutorial at IEEE SSCI, Canberra, Dec 2020.
- Machine reasoning, Invited talk at Faculty of IT, Monash University, August 2020.
- AI in Covid-19 pandemic, Invited talk at Vietnamese Academic Network in Japan, May 2020.
- *Machines that learn to talk about what they see*, Keynote at NICS'19, Hanoi, Vietnam, Dec 2019.
- Climate change: Challenges and AI-driven solutions, Workshop at Swinburne Vietnam, Hanoi, Vietnam, Dec 2019.
- Modern AI for drug discovery, VietAI Summit, Nov 2019.
- *Deep learning for biomedicine*, Lecture at South East Asian Machine Learning School, Depok, Greater Jakarta, Indonesia, July 2019.
- Deep Learning for genomics, Workshop at Institute of Big Data, Hanoi, Vietnam, June 2019.
- Representation learning on graphs, Keynote at MAPR'19, Ho Chi Minh City, Vietnam, May 2019.
- AI for matters, Phenikaa University, Hanoi, Vietnam, Jan 2019.
- Deep learning for biomedicine: Genomics and drug design, Institute of Big Data, Hanoi, Vietnam, Jan 2019.
- Advances in Neural Turing Machines, CafeDSL, University of Wollongong, Aug 2018.
- Deep learning for episodic interventional data, ISCB-ACS 2018, Melbourne, Aug 2018.
- Deep learning for astronomy at Harley Wood School for Astronomy, Ballarat, Australia, June 2018.
- Deep learning for biomedical discovery and data mining, Tutorial at PAKDD'18, Melbourne, Australia, June 2018
- Deep learning for biomedicine, Tutorial at ACML'17, Seoul, Korea, Nov 2017
- Deep neural nets for healthcare, Amazon Seattle, Feb 2017.

- Deep learning for detecting anomalies and software vulnerabilities, Academy of Cryptography Techniques, Hanoi, Vietnam, Jan 2017.
- Deep architecture engineering, VNU University of Engineering and Technology, Jan 2017.
- Deep architecture engineering, Hanoi University of Science and Technology, Jan 2017.
- Deep learning and applications to non-cognitive domains, at AusDM'16 (Canberra), Dec 2016.
- Deep learning and applications to non-cognitive domains, at AI'16 (Hobart), Dec 2016.
- *AI for healthcare*, Emerging Big Data Technologies Summit 2016 (EBDTS'16), Melbourne, Dec 2016
- Introduction to PRaDA: Research and industry engagement, FPT Institute, Dec 2014.
- Research at PRaDA, Institute of IT, Vietnam National University of Hanoi, Jan 2014.
- Healthcare analytics: A machine learning perspective, Deakin IT School Retreat, Dec 2013.
- Representation learning, Canberra University, Dec 2012.
- When computing meets statistics, Department of Statistics, Hanoi University of Science, VNU, Mar 2009.
- On some optimisation problems in structured pattern recognition, OptiSciCom09, Ba Vi, Hanoi, Vietnam, Mar 2009.
- RecSys: Recommender Systems, BarCamp Hanoi, Mar 2009.

■ Education and Qualifications

Graduate Certificate of Higher Education Learning	Deakin University, Australia	
and Teaching, 2016		
Doctor of Philosophy (Computer Science), 2008	Curtin University, Australia	
Postgraduate Diploma (Computer Science), 2004	Curtin University, Australia	
Bachelor of Science (Computer Science), 2001	University of Melbourne, Australia	

■ Awards and Recognition

2018	Excellent publications award, School of IT, Deakin University
2016	ADMA Best Student Paper Runner-up
2015	PAKDD Best Student Paper Runner-up
2015	ACM SIGSOFT Distinguished Paper Award at MSR'15.

2014	Best Paper Award, CRESP Early Career Researcher.
2014	Title of Kaggle Master.
2014	Third position in the Kaggle's Galaxy Zoo Challenge.
2013	Top 5% in the leader board of Heritage Health Prize, April 2011 - April 2013, 3-million dollar challenge to predict hospitalization (Team Vietlabs in the leader board: http://www.heritagehealthprize.com/c/hhp/leaderboard).
2011	Top 5% in the leader board of the Yahoo! Learning-To-Rank Challenge among thousands of teams worldwide (Chapelle, "Yahoo! Learning to Rank Challenge Overview", <i>JMLR: Workshop and Conference Proceedings</i> 14 (2011) 1-24).
2009	Best Paper Award, Runner up, at UAI.
2008	Chancellor Commendation for PhD thesis, Curtin University.
2005	Three-year scholarship for Doctor of Philosophy at Curtin University.
2004	One-year scholarship for Postgraduate Diploma at Curtin University.
2000	Member of Honour List, Faculty of Science, University of Melbourne.
1999	Australian Government (AusAID) Scholarship for BSc at the University of Melbourne.
1997	Silver Medal at the International Physics Olympiad (IPhO), Canada.
1997	First Prize at the National Physics Olympiad, Vietnam

■ Patents - Transfer of Technology

- **Truyen Tran**, Santu Rana, Quoc-Dinh Phung, Wei Luo, and Svetha Venkatesh, "Extracting medical features for risk prediction", Filed in Australia Dec 2013, number: AU2013902191. Filed internationally: June 2014, number: PCT/AU2014/050074.
- Co-founder of iHosp, a health analytics company.

■ Grants: \$11.4M

- "A generic framework for verifying machine learning algorithms", \$360K, *ARC Discovery*, 2021-2023. **Truyen Tran** as CI on Deep Learning.
- "Optimising treatments in mental health using AI", \$5M, MRFF AI in Health, 2021-2026. **Truyen Tran** as CI on Deep Learning Tech.
- "Defence Applied AI Experiential CoLab", \$1M annual, *Australian Department of Defence*, 2020-ongoing. **Truyen Tran** as CI on Deep Learning Tech.

- John Grundy *et al.*, "ARC Research Hub for Digital Enhanced Living", \$3M, *ARC Industrial Transformation Research Hubs*, 2018–2022. **Truyen Tran** as CI on AI.
- Thanh-Hai Dang, **Truyen Tran**, Xuan-Hieu Phan, Mai-Vu Tran, Cao-Cuong Dang, "Studying and developing advanced machine learning based models for extracting chemical/drugdisease relations from biomedical literature", Approx. \$54K, *National Foundation for Science and Technology Development (NAFOSTED), Vietnam Government*, 2017–2018.
- Svetha Venkatesh, **Truyen Tran**, Dinh Phung, "Accuracy of Machine Scoring of Fidgety Movements from High Risk infant populations", \$134K, *Cerebral Palsy Alliance, Australia*, 2016–2017.
- Hoa Khanh Dam, Aditya Ghose, **Truyen Tran**, John Grundy, "Predicting hazardous software components using deep learning", \$100K AUD, *Samsung GRO*, Japan, 2016–2017.
- Svetha Venkatesh, Dinh Phung, Alistair Shilton, Budhaditya Saha, Wei Luo, **Truyen Tran**, Sunil Gupta, Santu Rana, Thin Nguyen, Trung Le, Tu Nguyen, Vu Nguyen, Cheng Li, "Telstra Centre of Excellence in Big Data and Machine Learning", \$1.6M AUD, *Telstra, Australia*, 2016–2020.
- Svetha Venkatesh, Dinh Phung, Wei Luo, **Truyen Tran**, Sunil Gupta, Santu Rana, Stewart Greenhill, Thi Duong, Budhaditya Saha, "Advanced Data Analytics for Care Management of Chronic Disease", \$760K, *Barwon Health*, 2013-2017.
- Svetha Venkatesh, Wei Luo, Sunil Gupta, Thi Duong, **Truyen Tran**, "Improving Cancer Care", \$200K, *Western Alliance*, 2016-2017.
- Truyen Tran (CI), "Building a simulator of mail sorting machine", \$12K, 2003, *Grant administered by Research Institute of Post and Telecommunication*, Vietnam.
- **Truyen Tran** (CI, led by Dr. Dinh Van Dzung), "Network and services planning for Internet in Vietnam", \$26K, 2001–2004, *part of the KC01.02 program (National funding level)*. Grant administered by Research Institute of Post and Telecommunication, Vietnam.

■ Publications

Journals

- 1. Tri Minh Nguyen, Thin Nguyen, Thao Minh Le and **Truyen Tran**, "GEFA: Early fusion approach in drug-target affinity prediction", *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, 2021, DOI: 10.1109/TCBB.2021.3094217.
- 2. Santu Rana, Wei Luo, **Truyen Tran**, Svetha Venkatesh, Paul Talman, Thanh G Phan, Dinh Phung, Benjamin B Clissold, "Application of machine learning techniques to identify data reliability and factors affecting outcome after stroke using electronic administrative records", *Frontiers in Neurology*, 2021, doi: 10.3389/fneur.2021.670379.

- 3. Thao Minh Le, Vuong Le, Svetha Venkatesh, and **Truyen Tran**, "Hierarchical conditional relation networks for multimodal video question answering", *International Journal of Computer Vision*, 2021.
- 4. Thin Nguyen, Samuel C. Lee, Thomas P. Quinn, Buu Truong, Xiaomei Li, **Truyen Tran**, Svetha Venkatesh, Thuc Duy Le, "PAN: Personalized Annotation-based Networks for the prediction of breast cancer relapse", *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, 2021.
- 5. Binh Nguyen, Vuong Le, Catherine Morgan, Nadia Badawi, **Truyen Tran** and Svetha Venkatesh, "A Spatio-temporal Attention-based Model for Infant Movement Assessment from Videos", *IEEE Journal of Biomedical and Health Informatics*, 2021.
- 6. Morakot Choetkiertikul, Hoa Khanh Dam, **Truyen Tran**, Trang Pham, Aditya Ghose, and Tim Menzies, "Automatically recommending components for issue reports using deep learning", *Empirical Software Engineering*, 2021.
- 7. Vuong Le, Thomas P. Quinn, **Truyen Tran**, and Svetha Venkatesh, "Deep in the bowel: Highly interpretable neural encoder-decoder networks predict gut metabolites from gut microbiome", *BMC Genomics* 21, 2020
- 8. Brisa Fernandes, Chandan Karmakar, Ryad Tamouza, **Truyen Tran**, Nora Hamdani, Hakim Laouamri, Jean-Romain Richard, Robert Yolken, Michael Berk, Svetha Venkatesh, Marion Leboyer, "Precision Psychiatry with immunological and cognitive biomarkers: A multidomain prediction for the diagnosis of Bipolar Disorder or Schizophrenia using machine learning", *Nature's Translational Psychiatry*, 10.1 (2020): 1-13.
- 9. Adham Beykikhoshk, Thomas P. Quinn, Samuel C. Lee, **Truyen Tran**, and Svetha Venkatesh, "DeepTRIAGE: interpretable and individualised biomarker scores using attention mechanism for the classification of breast cancer sub-types", *BMC Medical Genomics* 13, no. 3 (2020): 1-10.
- 10. Kien Do, **Truyen Tran**, Thin Nguyen and Svetha Venkatesh, "Attentional multilabel learning over graphs: A message passing approach", *Machine Learning*, March 2019, DOI: 10.1007/s10994-019-05782-6.
- 11. Hoa Khanh Dam, **Truyen Tran**, Trang Pham, SW Ng, John Grundy, Aditya Ghose, "Automatic feature learning for predicting vulnerable software components", *IEEE Transactions on Software Engineering*, Nov 2018.
- 12. Duong-Nguyen Nguyen, Tien-Lam Pham, Viet-Cuong Nguyen, Tuan-Dung Ho, **Truyen Tran**, Keisuke Takahashi and Hieu-Chi Dam. "Committee machine that votes for similarity between materials", *IUCrJ*, Vol 5. no. 6, Nov 2018.
- 13. Kien Do, **Truyen Tran**, and Svetha Venkatesh, "Energy-Based anomaly detection for mixed data", *Knowledge and Information Systems*, November 2018, Volume 57, Issue 2, pp 413–435, DOI: 10.1007/s10115-018-1168-z.

- 14. Morakot Choetkiertikul, Hoa Khanh Dam, **Truyen Tran**, Aditya Ghose, John Grundy, "Predicting delivery capability in iterative software development", *IEEE Transactions on Software Engineering*, Volume: 44, Issue: 6, June 1 2018, Page(s): 551 573, DOI: 10.1109/TSE.2017.2693989.
- 15. Morakot Choetkiertikul, Hoa Khanh Dam, **Truyen Tran**, Trang Pham, Aditya Ghose, and Tim Menzies, "A deep learning model for estimating story points", *IEEE Transactions on Software Engineering*, Jan 2018, DOI: 10.1109/TSE.2018.2792473.
- 16. Trang Pham, **Truyen Tran**, Dinh Phung, Svetha Venkatesh, "Predicting healthcare trajectories from medical records: A deep learning approach", *Journal of Biomedical Informatics*, Vol 69, Pages 218--229, 2017, DOI:10.1016/j.jbi.2017.04.001.
- 17. **Truyen Tran**, Dinh Phung, Hung Bui, Svetha Venkatesh, "Hierarchical semi-Markov conditional random fields for deep recursive sequential data", *Artificial Intelligence*, Volume 246, May 2017, Pages 53–85.
- 18. Morakot Choetkiertikul, Hoa Khanh Dam, **Truyen Tran**, Aditya Ghose, "Predicting the delay of issues with due dates in software projects", *Empirical Software Engineering*, June 2017, Volume 22, Issue 3, pp 1223–1263, doi: 10.1007/s10664-016-9496-7.
- 19. Phuoc Nguyen, **Truyen Tran**, Nilmini Wickramasinghe, Svetha Venkatesh, "Deepr: A convolutional net for medical records", *IEEE Journal of Biomedical and Health Informatics*, vol. 21, no. 1, pp. 22–30, Jan. 2017, doi: 10.1109/JBHI.2016.2633963.
- 20. Wei Luo; Dinh Phung; **Truyen Tran**; Sunil Gupta; Santu Rana; Chandan Karmakar; Alistair Shilton; John Yearwood; Nevenka Dimitrova; Tu Bao Ho; Svetha Venkatesh; Michael Berk, "Guidelines for developing and reporting of machine learning predictive models in biomedical research", *JMIR*, 18(12), 2016, DOI: 10.2196/jmir.5870
- 21. Shaowu Liu, Gang Li, **Truyen Tran** and Jiang Yuan, "Preference relation-based Markov random fields for recommender systems", *Machine Learning*, DOI: 10.1007/s10994-016-5603-7, 2016.
- 22. **Truyen Tran**, Dinh Phung, Svetha Venkatesh, "Collaborative filtering via sparse Markov random fields", *Information Sciences*, Volume 369(10) November 2016, Pages 221–237, DOI: 10.1016/j.ins.2016.06.027
- 23. Shivapratap Gopakumara, **Truyen Tran**, Wei Luo, Dinh Phung, Svetha Venkatesh, "Forecasting daily patient outflow from a ward having no real-time clinical data", *JMIR*, Vol 4, No 3 (2016): Jul. 2016, pp:e25, doi: 10.2196/medinform.5650.
- 24. Wei Luo, Emily Huning, **Truyen Tran**, Dinh Phung, and Svetha Venkatesh, "Screening for post 32-week preterm birth risk: How helpful is routine perinatal data collection?", *Heliyon*, Volume 2, Issue 6, June 2016, Article e00119, doi: 10.1016/j.heliyon.2016.e00119
- 25. Wei Luo, Richard Harvey, **Truyen Tran**, Dinh Phung, Svetha Venkatesh and Jason Connor, "Consistency of the Health of the Nation Outcome Scales (HoNOS) at inpatient-to-community transition", *BMJ Open*, 2016;6:e010732 doi:10.1136/bmjopen-2015-010732.

- 26. Chandan Karmakar, Wei Luo, **Truyen Tran**, Michael Berk, and Svetha Venkatesh, "Predicting risk of suicide attempt using history of physical illnesses from electronic medical records", *JMIR Mental Health*, Vol 3, No 3 (2016): Jul-Sept.
- 27. Tu D. Nguyen, **Truyen Tran**, D. Phung, and S. Venkatesh, "Graph-induced restricted Boltzmann machines for document modeling", *Information Sciences*, 2016, vol 328, pp. 60-75 DOI: 10.1016/j.ins.2015.08.023.
- 28. Wei Luo, Thin Nguyen, Melanie Nichols, **Truyen Tran**, Santu Rana, Sunil Gupta, Dinh Phung, Svetha Venkatesh, Steve Allender, "Is demography destiny? Application of machine learning techniques to accurately predict population health outcomes from a minimal demographic dataset", *PLoS ONE*, May 4, 2015, DOI: 10.1371/journal.pone.0125602.
- 29. **Truyen Tran**, Dinh Phung, Svetha Venkatesh, "Modelling human preferences for ranking and collaborative filtering: A probabilistic ordered partition approach", *Knowledge and Information System (KAIS)*, May 13, 2015, DOI: 10.1007/s10115-015-0840-9
- 30. Thin Nguyen, **Truyen Tran**, Wei Luo, Sunil Gupta, Santu Rana, Dinh Phung, Melanie Nichols, Lynne Millar, Svetha Venkatesh, Steven Allender, "Web search activity data accurately predicts population chronic disease risk in the United States", *Journal of Epidemiology & Community Health*, 2015, doi:10.1136/jech-2014-204523.
- 31. **Truyen Tran**, Tu D. Nguyen, D. Phung, and S. Venkatesh, "Learning vector representation of medical objects via EMR-driven nonnegative restricted Boltzmann machines (*e*NRBM)", *Journal of Biomedical Informatics (JBI)*, 2015, pii: S1532-0464(15)00014-3. doi: 10.1016 / j.jbi.2015.01.012.
- 32. **Truyen Tran**, Wei Luo, Dinh Phung, Sunil Gupta, Santu Rana, Richard Lee Kennedy, Ann Larkins, Svetha Venkatesh, "A framework for feature extraction from hospital medical data with applications in risk prediction", *BMC bioinformatics* 15 (1), 2014, DOI: 10.1186/s12859-014-0425-8.
- 33. **Truyen Tran**, Dinh Phung, Svetha Venkatesh, "Tree-based iterated local search for Markov random fields with applications in image analysis", *Journal of Heuristics*, 2014, DOI: 10.1007/s10732-014-9270-1.
- 34. Shivapratap Gopakumar, **Truyen Tran**, Tu Dinh Nguyen, Dinh Phung, and Svetha Venkatesh, "Stabilizing high-dimensional prediction models using feature graphs", *IEEE Journal of Biomedical and Health Informatics*, 2014, DOI: 10.1109/JBHI.2014.2353031.
- 35. Santu Rana, **Truyen Tran**, Wei Luo, Richard Lee Kennedy, Dinh Phung, Svetha Venkatesh, "Predicting unplanned readmission after myocardial infarction from routinely collected administrative hospital data", *Australian Health Review*, 38(4):377–382, Sept 2014, doi: 10.1071/AH14059.
- 36. **Truyen Tran**, Wei Luo, Dinh Phung, Richard Harvey, Michael Berk, Richard Lee Kennedy, Svetha Venkatesh, "Risk stratification using data from electronic medical records better pre-

- dict suicide risks than clinician assessments", *BMC Psychiatry*, 14:76, 2014, doi:10.1186/1471-244X-14-76. Winner of the CRESP Early Career Researcher Best Award.
- 37. Sunil Gupta, **Truyen Tran**, Wei Luo, Dinh Phung, Richard Lee Kennedy, Adam Broad, David Campbell, David Kipp, Madhu Singh, Mustafa Khasraw, Leigh Matheson, David M Ashley, Svetha Venkatesh, "Machine-learning prediction of cancer survival: a retrospective study using electronic administrative records and a cancer registry", *BMJ Open*, 2014, doi:10.1136/bmjopen-2013-004007
- 38. **Truyen Tran**, Dinh Phung, Wei Luo, and Svetha Venkatesh, "Stabilized sparse ordinal regression for medical risk stratification", *Knowledge and Information Systems*, 2014, DOI: 10.1007/s10115-014-0740-4.

Peer-reviewed conferences and workshops

- 1. Dung Nguyen, Phuoc Nguyen, Svetha Venkatesh, **Truyen Tran**, "Learning to transfer role assignment across team sizes", *AAAI Fall Symposium on Computational Theory of Mind for Human-Machine Teams*, 2021.
- 2. Dung Nguyen, Phuoc Nguyen, Hung Le, Kien Do, Svetha Venkatesh, **Truyen Tran**, "Learning theory of mind via dynamic traits attribution", *AAAI Fall Symposium on Computational Theory of Mind for Human-Machine Teams*, 2021.
- 3. Dang Nguyen, Sunil Gupta, Trong Nguyen, Santu Sana, Phuoc Nguyen, **Truyen Tran**, Ky Le, Shannon Ryan, Svetha Venkatesh, "Knowledge distillation with distribution mismatch", *ECML-PKDD*'21.
- 4. Phuoc Nguyen, **Truyen Tran**, Ky Le, Sunil Gupta, Santu Sana, Dang Nguyen, Trong Nguyen, Shannon Ryan, Svetha Venkatesh, "Fast conditional network compression using Bayesian HyperNetworks", *ECML-PKDD*'21.
- 5. Phuoc Nguyen, **Truyen Tran**, Sunil Gupta, Santu Rana, Hieu-Chi Dam, Svetha Venkatesh, "Variational hyper-encoding networks", *ECML-PKDD'21*.
- 6. **Truyen Tran**, Vuong Le, Hung Le, Thao M Le, "From deep learning to deep reasoning", *KDD*'21.
- 7. Duc Nguyen, Binh Nguyen, Phuoc Nguyen, **Truyen Tran**, "High-order representation learning for multivariate time series forecasting", *ICML'21 Workshop on Time-Series*, 2021.
- 8. Tri Minh Nguyen, Thomas P Quinn, Thin Nguyen, **Truyen Tran**, "Counterfactual explanation with multi-agent reinforcement learning for drug target prediction", *ICML'21 Workshop on Interpretable Machine Learning in Healthcare*, 2021.
- 9. Kien Do, **Truyen Tran**, Svetha Venkatesh, "Clustering by maximizing mutual information across views", *ICCV*'21.
- 10. Long Hoang Dang, Thao Minh Le, Vuong Le, and **Truyen Tran**. "Object-centric representation learning for video question answering", *IJCNN*'21.

- 11. Long Hoang Dang, Thao Minh Le, Vuong Le, and **Truyen Tran**. "Hierarchical object-oriented spatio-temporal reasoning for video question answering", *IJCAI'21*.
- 12. Romero Morais, Vuong Le, Svetha Venkatesh and **Truyen Tran**, "Learning to abstract and predict human actions", *CVPR'21*, 19-25 June, Virtual.
- 13. Kien Do, **Truyen Tran** and Svetha Venkatesh, "Semi-supervised learning with variational Bayesian inference and maximum uncertainty regularization", *AAAI'21*.
- 14. Hung Tran, Vuong Le and **Truyen Tran**, "Goal-driven long-term trajectory prediction", *WACV'21*, Jan 5-9 2021, Online.
- 15. Tri Minh Nguyen, Thin Nguyen, Thao Minh Le and **Truyen Tran**, "GEFA: Early fusion approach in drug-target affinity prediction", *NeurIPS 2020 Workshop on Machine Learning for Structural Biology (MLSB)*, Online.
- 16. Phuoc Nguyen, **Truyen Tran**, Sunil Gupta, Santu Rana, Hieu-Chi Dam, Svetha Venkatesh, "HyperVAE: A minimum description length variational hyper-encoding network", *NeurIPS* 2020 Workshop on Meta-Learning, Online.
- 17. Hoang Thanh-Tung, Truyen Tran, "Toward a generalization metric for deep generative models", *NeurNIPS 2020 1st Workshop on I Can't Believe It's Not Better*, Online.
- 18. Duc Nguyen, Phuoc Nguyen, Kien Do, Santu Rana, Sunil Gupta, **Truyen Tran**, "Unsupervised anomaly detection on temporal multiway data", *2020 IEEE Symposium Series on Computational Intelligence* (SSCI) (SSCI 2020), Canberra, 1-4 Dec 2020.
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- 51. Kien Do, **Truyen Tran**, Svetha Venkatesh, "Learning recurrent matrix representation", *IJ-CAI'17 Third Representation Learning for Graphs Workshop (ReLiG 2017)*, Melbourne, Australia, August.
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