Truyen Tran (PhD)

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Curriculum Vitae

■ Research Summary

My current research is focused on *machine learning, especially deep learning and relational learning and their applications for data-driven knowledge discovery.* Applications include healthcare, software engineering and recommender systems.

■ Professional Activities

★ Employment

Position	Start date	End date	Organisation
Lecturer	3/2014	Present	School of IT, Deakin University
Research Fellow	05/2012	3/2014	School of IT, Deakin University
Research Fellow	05/2009	6/2016	Department of Computing, Curtin University.
Research Consultant	03/2008	04/2009	Freelance
CIO	01/2008	5/2008	AVA Communications Group (Hanoi, Vietnam)
Research Engineer	03/2002	03/2004	Research Institute of Posts and Telecommunications (Hanoi, Vietnam)

★ Membership

- The International Machine Learning Society

★Teaching

- *Data Science* courses at Deakin University, 2016.

- *Healthcare analytics*, a short 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

- *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)

- Kien Do (PhD), *Unsupervised deep learning with applications to healthcare*, Deakin University, Started: April 2016.
- Trang Pham (PhD), *Deep learning for healthcare*, Deakin University. Started: May 2015
- Shivapratap Gopakumar (PhD), *Leveraging side information to improve clinical prediction models*, Deakin University. Started: August 2013

★ Supervision (Past)

- Tu Dinh Nguyen (PhD), *Structured representation learning from complex data*, Deakin University. **Completed:** October 2015

★ Reviewing services

Grants: 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), Vietnam 2015-2017

Journals: Automated Software Engineering (2017)
IEEE Access (2016)
ACM Intelligent Systems and Technology (2016)
Knowledge-based System (2016)
IEEE Transactions on Neural Networks and Learning Systems (2015)
Computer Communications (2015)
Neurocomputing (2014, 2015)
IEEE Transactions on Signal and Information Processing over Networks (2015)
IEEE Transactions on Multimedia (2009-2014)
Engineering Applications of Artificial Intelligence (2014)
IEEE Transactions on Knowledge and Data Engineering (2012, 2016)

IEEE Signal Processing Letters (2014)
Artificial Intelligence Journal (2010)
ACM Transactions on Multimedia Computing, Communications and Applications (2010)

Conferences: (Senior TPC)
Asian Conference on Machine Learning, 2013-2017

Conferences: (TPC)
International Joint Conference on Machine Learning (ICML: 2017)
International Joint Conference on Artificial Intelligence (IJCAI: 2009, 2015, 2016)
AAAI Conference on Artificial Intelligence (AAAI: 2005, 2008, 2016)
Australasian Joint Conference on Artificial Intelligence, 2015 (AI'15)
ACM International Conference on Information and Knowledge Management (CIKM: 2015, 2016)
International conference on Modelling, Computation and Optimization in Information Systems and Management Sciences 2015, (MCO'15)
International Conference on Multimedia and Expo (ICME: 2012-2015)
Asian Conference on Machine Learning (ACML: 2013-2014)
Pacific-Asia Conference on Knowledge Discovery and Data Mining, 2013 (PAKDD'13)
ACM SIGIR, 2010 (SIGIR'10)
ACM Multimedia, 2009 (ACMM'09)
Pacific Rim International Conferences on Artificial Intelligence, 2010 (PRICAI'10)
International Conference on Control, Automation, Robotics and Vision, 2008 (ICARCV08)

Workshops: NIPS Workshop on Deep Learning for Speech Recognition and Related Applications, 2009 (DLSRRA'09)
AAAI Workshop on Plan, Activity, and Intent Recognition Workshop, 2013 (PAIR'13)

★ Invited Panelist

Workshop on Deep Learning for Speech Recognition and Related Applications, in conjunction with NIPS 2009 December 12, 2009, Whistler, BC, Canada

★ External Thesis Examination

- *Radar Signal Representation and Classification*, PhD thesis, University of Wollongong, Australia, 2013.

★ Invited talks & tutorials

- *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, 2009.
- *On some optimisation problems in structured pattern recognition*, OptiSciCom09, Ba Vi, Hanoi, Vietnam, 2009.
- *RecSys: Recommender Systems*, BarCamp Hanoi, 2009.

■ Education and Qualifications

Graduate Certificate of Higher Education Learning and Teaching	Deakin University, Australia
Doctor of Philosophy, 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

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 hospitalisation (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", *JMLR: Workshop and Conference Proceedings* 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**, 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

- 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/drug-disease relations from biomedical literature", *National Foundation for Science and Technology Development (NAFOSTED), Vietnam Government*, Approx. $54K, 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.

- **Truyen Tran** (CI), "Building a simulator of mail sorting machine", 90M VND (˜$12K AUD), 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", 195M VND (˜$26K AUD), 2001–2004, *part of the KC01.02 program (National funding level)*. Grant administered by Research Institute of Post and Telecommunication, Vietnam.

■ Publications

Journals

1. Morakot Choetkiertikul, Hoa Khanh Dam, **Truyen Tran**, Aditya Ghose, John Grundy, "Predicting delivery capability in iterative software development", *IEEE Transactions on Software Engineering*, Minor revision (02/2017).

2. **Truyen Tran**, Dinh Phung, Hung Bui, Svetha Venkatesh, "Hierarchical semi-Markov conditional random fields for deep recursive sequential data", *Artificial Intelligence Journal*, Accepted 02/2017.

3. Morakot Choetkiertikul, Hoa Khanh Dam, **Truyen Tran**, Aditya Ghose, "Predicting the delay of issues with due dates in software projects", *Empirical Software Engineering*, doi: 10.1007/s10664-016-9496-7, 2017.

4. 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.

5. 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.

6. 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.

7. **Truyen Tran**, Dinh Phung, Svetha Venkatesh, "Collaborative filtering via sparse Markov random fields", *Information Sciences*, Volume 369, 10 November 2016, Pages 221–237.

8. 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-Sept.

9. 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.

10. 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.

11. Chandan Karmakar, Wei Luo, **Truyen Tran**, Michael Berk, and Svetha Venkatesh, "Predicting suicide risks using history of physical illnesses categorized by ICD-10 chapters", *JMIR Mental Health,* Vol 3, No 3 (2016): Jul-Sept.

12. 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.

13. 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, 201, 5DOI: 10.1371/journal.pone.0125602.

14. **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

15. 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.

16. **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.

17. **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.

18. **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.

19. 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.

20. 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.

21. **Truyen Tran**, Wei Luo, Dinh Phung, Richard Harvey, Michael Berk, Richard Lee Kennedy, Svetha Venkatesh, "Risk stratification using data from electronic medical records better predict 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.**

22. 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

23. **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

1. Trang Pham, **Truyen Tran**, Dinh Phung, Svetha Venkatesh, "Column Networks for Collective Classification", *AAAI'17.*

2. Kien Do, **Truyen Tran**, Dinh Phung, Svetha Venkatesh, "Outlier Detection on Mixed-Type Data: An Energy-based Approach", *International Conference on Advanced Data Mining and Applications (ADMA 2016).* **Best Student Runner-up Paper Award.**

3. Shivapratap Gopakumara, **Truyen Tran**, Dinh Phung, Svetha Venkatesh, "Stabilizing Linear Prediction Models using Autoencoder", *International Conference on Advanced Data Mining and Applications (ADMA 2016).*

4. Shivapratap Gopakumara, **Truyen Tran**, Wei Luo, Dinh Phung, Svetha Venkatesh, "Forecasting patient outflow from wards having no real-time clinical data", *ICHI'16.*

5. Hoa Khanh Dam, **Truyen Tran** and Trang Pham, "A deep language model for software code", *FSE Workshop on NL+SE,* 2016.

6. Hoa Khanh Dam, **Truyen Tran**, John Grundy and Aditya Ghose, "DeepSoft: A vision for a deep model of software", *FSE Vision and Reflection Track,* 2016.

7. Trang Pham, **Truyen Tran**, Dinh Phung, Svetha Venkatesh, "Faster Training of Very Deep Networks Via p-Norm Gates", *ICPR'16.*

8. **Truyen Tran**, Wei Luo, Dinh Phung, Jonathan Morris, Kristen Rickard, Svetha Venkatesh, "Preterm Birth Prediction: Deriving Stable and Interpretable Rules from High Dimensional Data", *Conference on Machine Learning in Healthcare*, LA, USA Aug 2016.

9. **Truyen Tran**, Dinh Phung and Svetha Venkatesh, "Neural Choice by Elimination via Highway Networks", *PAKDD workshop on Biologically Inspired Techniques for Data Mining (BDM'16)*, April 19-22 2016, Auckland, NZ.

10. Trang Pham, **Truyen Tran**, Dinh Phung and Svetha Venkatesh, "DeepCare: A Deep Dynamic Memory Model for Predictive Medicine", *PAKDD'16*, April 19-22 2016, Auckland, NZ.

11. Shaowu Liu, Gang Li, **Truyen Tran**, Jiang Yuan, "Preference Relation-based Markov Random Fields", *ACML'15*, November 20-22, 2015, Hong Kong.

12. Morakot Choetkiertikul, Daniel Avery, Hoa Khanh Dam, **Truyen Tran** and Aditya Ghose, "Who will answer my question on Stack Overflow?", *24th Australasian Software Engineering Conference (ASWEC 2015)*, Adelaide, Australia, September 28 - October 1, 2015.

13. Morakot Choetikertikul, Hoa Khanh Dam, **Truyen Tran**, Aditya Ghose, "Predicting delays in software projects using networked classification", *30th IEEE/ACM International Conference on Automated Software Engineering*, November 9–13, 2015 Lincoln, Nebraska, USA.

14. Morakot Choetikertikul, Hoa Khanh Dam, **Truyen Tran**, Aditya Ghose, "Characterization and prediction of issue-related risks in software projects", *MSR'15*, May 16–17, Florence, Italy. **Winner of ACM SIGSOFT Distinguished Paper Award.**

15. **Truyen Tran**, Santu Rana, Wei Luo, Dinh Phung, Svetha Venkatesh, Richard Harvey, "Dancing with black swans: A computational perspective on suicide risk detection", *ENAR Spring Meeting*, Miami, Florida, USA, March 2015.

16. Shivapratap Gopakumar, **Truyen Tran**, Tu Dinh Nguyen, Dinh Phung, and Svetha Venkatesh, "Stabilizing Sparse Cox Model using Statistic and Semantic Structures in Electronic Medical Records", *PAKDD'15*, Ho Chi Minh City, Vietnam, May 2014. **Runner-up for Best Student Paper Award.**

17. Tu Dinh Nguyen, **Truyen Tran**, Dinh Phung, and Svetha Venkatesh, "Tensor-variate Restricted Boltzmann Machines", *AAAI'15*.

18. Shaowu Liu, **Truyen Tran**, Gang Li, Jiang Yuan, "Ordinal Random Fields for Recommender Systems", *ACML'14*, Nha Trang, Vietnam, Nov 2014.

19. T Nguyen, D Phung, W Luo, **T Tran**, S Venkatesh, "2014 iPoll: Automatic polling using online search", *15th International Conference on Web Information System Engineering (WISE 2014),* 2014.

20. Shivapratap Gopakumar, **Truyen Tran**, Dinh Phung, and Svetha Venkatesh, "Stabilizing Sparse Cox's Model using Clinical Structures in Electronic Medical Records", *2nd International Workshop on Pattern Recognition for Healthcare Analytics*, August, 2014 Stockholm, Sweden.

21. S. Rana, W. Luo, **T. Tran**, D. Phung, S. Venkatesh, R. Harvey, "HealthMap: A visual platform for patient suicide risk review", *HISA Big Data 2014*, Melbourne, April 2014.

22. Tu Dinh Nguyen, **Truyen Tran**, Dinh Phung, and Svetha Venkatesh, "Latent patient profile modelling and applications with Mixed-Variate Restricted Boltzmann Machine", *Advances in Knowledge Discovery and Data Mining, Lecture Notes in Computer Science*, Volume 7818, 2013, pp 123–135.

23. S. Venkatesh, D. Phung, **T. Tran**, S. K. Gupta, "Capitalising on the data deluge: Data analytics for healthcare", *Big Data 2013 in Health and Biomedicine*, Melbourne, April 2013.

24. **Truyen Tran**, Dinh Phung, Wei Luo, Richard Harvey, Michael Berk, and Svetha Venkatesh, "An integrated framework for suicide risk prediction", In *Proc. of 19th ACM SIGKDD Conference on Knowledge Discovery and Data Mining* (KDD), Chicago, USA, August, 2013.

25. Tu D. Nguyen, **Truyen Tran**, D. Phung, and S. Venkatesh, "Learning sparse latent representation and distance metric for image retrieval", In *Proc. of IEEE International Conference on Multimedia and Expo* (ICME), San Jose, California, USA, July 2013.

26. **Truyen Tran**, D. Phung, and S. Venkatesh, "Thurstonian Boltzmann machines: Learning from multiple inequalities", *Journal of Machine Learning Research (JMLR) Workshop and Conference Proceedings*, Vol. 28(2):46–54, 2013.

27. Tu D. Nguyen, **Truyen Tran**, D. Phung, and S. Venkatesh, "Learning parts-based representations with Nonnegative Restricted Boltzmann Machine", *Journal of Machine Learning Research (JMLR) Workshop and Conference Proceedings*, Vol. 29:133–148, 2013.

28. **Truyen Tran**, D. Phung, and S. Venkatesh, "Cumulative restricted Boltzmann machines for ordinal matrix data analysis", *Journal of Machine Learning Research (JMLR)Workshop and Conference Proceedings*, Vol. 25*:*411–426, 2012.

29. **Truyen Tran**, D. Phung, and S. Venkatesh, "Learning from ordered sets and applications in collaborative ranking", *Journal of Machine Learning Research (JMLR) Workshop and Conference Proceedings*, Vol. 25:427–442, 2012.

30. **Truyen Tran**, D. Phung, and S. Venkatesh, "Embedded Restricted Boltzmann Machines for fusion of mixed data type and applications in social measurements analysis", In *Proc. of 15th International Conference on Information Fusion* (FUSION), Singapore, July 2012.

31. **Truyen Tran**, D. Phung, and S. Venkatesh, "A sequential decision approach to ordinal preferences in recommender systems", In *Proc. of 25-th Conference on Artificial Intelligence* (AAAI-12), Toronto, Canada, July 2012.

32. **Truyen Tran**, D. Phung, and S. Venkatesh, "Learning Boltzmann distance metric for face recognition", In *Proc. of IEEE International Conference on Multimedia & Expo* (ICME 2012), Melbourne, Australia, July 2012.

33. **Truyen Tran**, D. Phung, and S. Venkatesh, "Mixed-variate restricted Boltzmann machines", *Journal of Machine Learning Research (JMLR) Workshop and Conference Proceedings*, Vol. 20:213–229, 2011.

34. T. **Truyen**, D. Phung, and S. Venkatesh, "Probabilistic models over ordered partitions with applications in document ranking and collaborative filtering", In *Proc. of SIAM Int. Conf. on Data Mining* (SDM11), April, Arizona, USA, 2011.

35. Thin Nguyen, Dinh Phung, Brett Adams, **Truyen Tran** and Svetha Venkatesh, "Classification and Pattern Discovery of Mood in Weblogs", *Advances in Knowledge Discovery and Data Mining*, 2010, pp 283-290, Springer.

36. T. Nguyen, D. Phung, B. Adams, T. **Truyen**, and S. Venkatesh. "Hyper-community detection in the blogosphere", In *Proc. of ACM Workshop on Social media, in conjunction with ACM Int. Conf on Multimedia* (ACM-MM), Firenze, Italy, 2010. ACM.

37. S. Gupta, D. Phung, B. Adams, T.T. **Truyen** and S. Venkatesh, "Nonnegative shared subspace learning and its application to social media retrieval", In *Proc. of 16th ACM SIGKDD Conference on Knowledge Discovery and Data Mining*, 25-28 Jul, Washington DC, 2010

38. T.T. **Truyen**, D.Q. Phung, S. Venkatesh, H.H. Bui, "MCMC for hierarchical semi-Markov conditional random fields", In *NIPS'09 Workshop on Deep Learning for Speech Recognition and Related Applications. December*, 2009, Whistler, BC, Canada.

39. T.T. **Truyen**, D.Q. Phung, S. Venkatesh, "Ordinal Boltzmann machines for collaborative filtering", In *Proc. of 25th Conference on Uncertainty in Artificial Intelligence*, June, 2009, Montreal, Canada. **Runner-up for the best paper award**.

40. **T.T. Truyen**, D.Q. Phung, H.H. Bui and S. Venkatesh, "Hierarchical semi-Markov conditional random fields for recursive sequential data". *Advances in Neural Information Processing Systems 21,* D. Koller, D. Schuurmans, Y. Bengio, and L. Bottou *eds*, 2009.

41. **T.T. Truyen**, D.Q. Phung and S. Venkatesh, "Constrained sequence classification for lexical disambiguation". *PRICAI 2008: Trends in Artificial Intelligence, Lecture Notes in Computer Science,* Volume 5351, 2008, pp 430–441.

42. **T.T. Truyen**, H.H. Bui, D.Q. Phung and S. Venkatesh, "Learning discriminative sequence models from partially labelled data for activity recognition", *PRICAI 2008: Trends in Artificial Intelligence, Lecture Notes in Computer Science* Volume 5351, 2008, pp 903–912.

43. T.T. **Truyen**, D.Q. Phung and S. Venkatesh, "Preference Networks: probabilistic models for recommendation systems", In *Proc. the 6th Australasian Data Mining Conference: AusDM 2007*, Volume 70 pp 195–202, Gold Coast, Australia.

44. T.T. **Truyen**, H.H. Bui, D.Q. Phung and S. Venkatesh, "AdaBoost.MRF: Markov random forests for activity recognition", In *Proc. IEEE Computer Vision and Pattern Recognition*, New York, June 2006.

45. T.T. **Truyen**, H.H. Bui and S. Venkatesh, "Boosted Markov networks for activity recognition", In *Proc. 2nd International Conference on Intelligent Sensors, Sensor Networks and Information Processing (ISSNIP)*, Melbourne, Australia, Dec 2005.

46. T.T. **Truyen**, H.H. Bui and S. Venkatesh, "Human activity learning and segmentation using partially hidden discriminative models", *International Workshop on Human Activity Recognition and Modelling (HAREM)*, Oxford, UK, Sept 2005, pp. 87-95.

47. **Truyen Tran**, Trung Thanh Nguyen, Hoang Linh Nguyen, "Global optimization using Lévy flights", *Second National Symposium on Research, Development and Application of Information and Communication Technology (ICT. rda 2004)*, Hanoi, Vietnam, 2004.