



# Curriculum Vitae

## Assoc. Prof. Dr. Hien Thanh Nguyen

### (Nguyễn Thanh Hiên in Vietnamese)

(Last Updated September 2018)

<b>JOB POSITION</b>	<b>Current:</b> Founder and Director, Artificial Intelligence Laboratory (AI Lab), Faculty of Information Technology, Ton Duc Thang University (TDTU), Vietnam
<b>TIMELINE</b>	<b>3/2012-2017:</b> Dean, Faculty of Information Technology, TDTU <b>7/2011-2/2012:</b> Head, Department of Computer Science, Faculty of Information Technology and Applied Mathematics, TDTU <b>2008-6/2011:</b> Vice Director, Center for Computing and Information Services, TDTU, in charge of building the Data Center and Network Infrastructure of the main campus located in District 7, Ho Chi Minh City <b>2005-2007:</b> Head, Department of Software Engineering, Faculty of Information Technology, Ho Chi Minh City University of Industry, Vietnam
<b>CONTACT INFORMATION</b>	Faculty of Information Technology, Ton Duc Thang University, No.19, Nguyen Huu Tho St., Tan Phong Ward, District 7, Ho Chi Minh City, Vietnam. eHome: <a href="https://www.newai.vn/people/hien/">https://www.newai.vn/people/hien/</a> Blog: <a href="https://blog.newai.vn/">https://blog.newai.vn/</a> Email: <a href="mailto:hiengnguyenthanh@gmail.com">hiengnguyenthanh@gmail.com</a> or <a href="mailto:hien@tdt.edu.vn">hien@tdt.edu.vn</a>
<b>RESEARCH INTERESTS</b>	<b>Current direction:</b> <a href="#">Deep Learning</a> for Natural Language Processing and Data Science <b>Past direction:</b> <ul style="list-style-type: none"><li>• Information Extraction: Named entity recognition, Entity Linking, etc.</li><li>• Networks Analysis: Social Networks, Complex Networks</li><li>• Machine Learning and Natural Language Processing</li></ul>
<b>RESEARCH PROJECTS</b>	<b>Finished</b> <ul style="list-style-type: none"><li>• Building Vietnamese Ontology Based on Wikipedia (2013-2014); funded by Ton Duc Thang University (Position: Principal Investigator).</li><li>• Wikipedia-based Entity Disambiguation (2012-2014); funded by Vietnam National University-Ho Chi Minh City (VNU-HCM). (Position: Senior research).</li><li>• Resolution methods and algorithms applied in single-criterion and multicriteria</li></ul>

scheduling problems (2012-2014); funded by NAFOSTED. (Position: Senior research).

- Overview research of author name disambiguation in citations (2012-2013); funded by Ton Duc Thang University (Position: Principal Investigator).
- Information Extraction and Integration on Vietnamese Semantic Web (2007-2009); funded by Vietnam National University - Ho Chi Minh City (VNU-HCM) (Position: Research Assistant).
- Named Entity Disambiguation in Texts Based on Wikipedia (2008-2009); funded by Ho Chi Minh City University of Technology (Position: Co-Principal Investigator).
- Vietnamese Semantic Web (2004-2006); funded by the Ministry of Science and Technology (Position: Research Assistant).

#### EDUCATION

- Ph.D. in Computer Science, Ho Chi Minh City University of Technology, Viet Nam, 2011.
- M.Sc in Computer Science, Ho Chi Minh City University of Technology, Viet Nam, 2005.
- B.S. in Computer Engineering, Ho Chi Minh City University of Technology, Viet Nam, 2002.

#### HONORS AND AWARDS

- Best papers Awards (SEMAPRO 2010)
- TDTU Excellent Researcher of the Year 2012 & 2016
- Visiting Researcher at Vietnam Institute for Advanced Study in Mathematics (2012)

#### PROFESSIONAL ACTIVITIES

**Associate Editorial Board member:** [Computational Social Networks](#) journal (2017-present)

**Conference Program Co-Chairs:** Conf-IRM 2014, CSoNet 2016

**Conference Local Co-Chairs:** ISSPIT 2012, COCOON 2016

**Conference General Co-Chairs:** CISIM 2014

**Conference Track Co-Chairs:** NICS 2018

**PC member:** KSE 2018, BCD 2018; CSoNet 2018, 2017, 2016, 2015; BCD 2017, CISIM 2017, BCD 2016, CISIM 2016, IUKM 2016

**Journals' reviewer:** Information Sciences, Computational Intelligence and Neuroscience, IEEE Access, The Journal of the Association for Information Science

and Technology (JASIST), Information Processing Letters.

### Visiting Scholars

- Young Researcher at VIASM, June 2012 – August 2012, with [John Lafferty](#), [Tu-Bao Ho](#) and [Xuan-Long Nguyen](#) on Statistical Machine Learning
- Faculty of Electrical Engineering and Computer Science, Technical University of Ostrava in Czech Republic, Summer 2015, with [Vaclav Snasel](#).

### TALKS

#### Invited speaker

- **Deep learning for Entity Recognition.** The Fourth Asian Conference on Defense Technology (ACDT 2017), Nov. 30, 2017, Tokyo, Japan.

#### Invited talks

- **Deep learning for Natural Language Processing.** School of Knowledge Science, Japan Advanced Institute of Science and Technology, Dec. 04, 2018, Kanazawa, Japan, hosted by Professor HUYNH Van-Nam.
- **Recent Advances in Machine Learning.** Global CyberSoft, Oct. 18, 2017, HCM City, Vietnam
- **JVN-TDT Entity Linking Systems at TAC-KBP2012.** Text Analysis Conference TAC (2012), National Institute of Standards and Technology, Nov. 5, 2012, Maryland, USA.

**Selected oral representation at conferences:** CSoNet2015 (Beijing, China), ASWC2008 (Bangkok, Thailand)

### PUBLICATIONS

#### Edited Volumes, Books and Book Chapters

1. **Hien T. Nguyen**, Vaclav Snasel (Eds.). Computational Social Networks - 5th International Conference, CSoNet 2016, Ho Chi Minh City, Vietnam, August 2–4, 2016. Proceedings. *Lecture Notes in Computer Science* **9795**, Springer, ISBN 978-3-319-42344-9.
2. **Hien T. Nguyen**, Annette Mills, Dong Thi Bich Thuy (Eds.). The Seventh International Conference on Information Resources Management (Conf-IRM 2014), Ho Chi Minh City, Vietnam, May 21 - 23, 2014. Proceedings. *The Association for Information Systems (AIS)*.
3. **Hien T. Nguyen** (2015). Computing Semantic Similarity for Vietnamese

Concepts Using Wikipedia. In: Some Current Advanced Researches on Information and Computer Science in Vietnam, Dang, Q.A., Nguyen, X.H., Le, H.B., Nguyen, V.H., Bao, V.N.Q. (Eds.), *Advances in Intelligent Systems and Computing*, Vol. 341, pp 91-106, *Springer*. [NICS 2014 Extended version]

### International Journals

4. **Hien T. Nguyen**, Phuc H. Duong, Erik Cambria (2019). Learning Short-Text Semantic Similarity with Word Embeddings and External Knowledge Sources. In: *Knowledge-Based Systems* (SCI, Impact Factor 2018: 4.396). [To appear](#).
5. Tuan Minh Tran, Xuan-May Thi Le, **Hien T. Nguyen**, Van-Nam Huynh (2018). A novel non-parametric method for time series classification based on  $k$ -Nearest Neighbors and Dynamic Time Warping Barycenter Averaging. In: *Engineering Applications of Artificial Intelligence* (EAAI) 78 (2019) 173–185 (SCI-E, Impact Factor 2018: 2.819).
6. Phuoc Tran, Dien Dinh and **Hien T. Nguyen** (2017). Improving Word Alignment Based on Named Entity. *ICIC Express Letters, Part B: Applications*, Volume 8, Issue 7, pp. 1061-1068 (SCOPUS).
7. Vu H. Nguyen, **Hien T. Nguyen**, and Vaclav Snasel (2016). Text normalization for named entity recognition in Vietnamese tweets. *Computational Social Networks* 3.1 (2016):10, Springer. (SCOPUS)
8. Vu H. Nguyen, **Hien T. Nguyen**, Hieu N. Duong, Vaclav Snasel (2016).  $n$ -Gram-based text compression. *Computational Intelligence and Neuroscience*, Article ID 9483646 (SCI-E, 2015 Impact Factor: 0.43)
9. Phuoc Tran, Dinh Dien, **Hien T. Nguyen** (2016). A Character-Level-Based and Word-Level-Based Approach for Chinese-Vietnamese Machine Translation. *Computational Intelligence and Neuroscience*, Vol 2016, Article ID 9821608, 11 pages, DOI: <http://dx.doi.org/10.1155/2016/9821608> (SCI-E, 2015 Impact Factor: 0.43)
10. H. Zhang, M. Alim, X. Li, M. T. Thai, and **Hien T. Nguyen** (2016). Misinformation in Online Social Networks: Catch Them All with Limited Budget. *ACM Transactions on Information Systems* (TOIS), Vol. 34 (3), Article 18. DOI: <http://dx.doi.org/10.1145/2885494> (SCI-E, 2015 Impact Factor: 1.021)
11. Duong, Hieu N., **Hien T. Nguyen**, Snasel Vaclav, and Lee Sanghyuk. A

Comparative Study of SWAT, RFNN and RFNN-GA for predicting river runoff.  
In: *Indian Journal of Science and Technology*, 9, no. 17 (2016): 10-12. (Web of Science)

12. Namhee Lee, Jason J. Jung, Seungbo Park, and **Hien T. Nguyen** (2015). Social Data Visualization System For Understanding Diffusion Patterns On Twitter: A Case Study On Korean Enterprises. *Computing and Informatics*, Vol.33, No.3, pp. 1001-1018 (SCI-E, ISSN: 1335-9150, 2013 Impact Factor: 0.319)
13. Bay Vo and **Hien T. Nguyen** (2015). Mining Frequent Closed Itemsets from Multidimensional Databases. *International Journal of Computational Vision and Robotics*, 5(3), 217-230. (SCOPUS)
14. Y. Shen, T. N. Dinh, M. T. Thai, and **H. T. Nguyen**. (2014). Staying safe and visible via message sharing in online social networks. *Journal of Combinatorial Optimization*, Vol.28, Issue 1, pp 186-217 (SCI-E, ISSN: 1382-6905, 2013 Impact Factor: 1.043)
15. T. N. Dinh, M. T. Thai, and **H. T. Nguyen**. (2014) Bound and Exact Methods for Assessing Link Vulnerability in Complex Networks. *Journal of Combinatorial Optimization*, Vol.28, Issue 1, pp 3-24 (SCI-E, ISSN: 1382-6905, 2013 Impact Factor: 1.043)
16. **Nguyen, H. T.** and Cao, T. H. (2012). Named Entity Disambiguation: A Hybrid Approach. *International Journal of Computational Intelligence Systems*, 5(6), pp. 1052-1067 (SCI-E, ISSN: 1875-6891, 2010 Impact Factor: 1.471)

#### **International Conferences**

17. Phuc H. Duong, **Hien T. Nguyen**, Hieu N. Duong, Khoa Ngo, and Dat Ngo (2018). A Hybrid Approach to Paraphrase Detection. The *5th NAFOSTED Conference on Information and Computer Science (NICS)*. IEEE Xplore.
18. **Hien T. Nguyen**, Thuan Quoc Nguyen (2018). A Short Review on Deep Learning for Entity Recognition. *Future Data and Security Engineering 2018 (FDSE 2018)*. Springer.
19. Phuc H. Duong, **Hien T. Nguyen**, Hao T. Do (2018). Question Understanding in Community-based Question Answering Systems. *International Conference on Computational Social Networks (CSoNet 2018)*. Springer.
20. Phuc H. Duong, **Hien T. Nguyen**, Duy D. Nguyen, Hao T. Do (2018). A Hybrid Approach to Answer Selection in Question Answering

Systems. IUKM 2018: 191-202. Springer.

21. Thi T. T. Tran, Ngo N. H. Giang, Hieu Ngoc Duong, **Hien T. Nguyen**, Tran Van Hoai, Vu Van Nghi (2017). A comprehensive study on predicting river runoff. In: The 9th International Conference on Knowledge and Systems Engineering (KSE 2017), pp. 251-256.
22. Tong Duc Phong, Hieu N. Duong, **Hien T. Nguyen**, Nguyen Thanh Trong, Vu H. Nguyen, Tran Van Hoa, Vaclav Snasel (2017). Brain Hemorrhage Diagnosis by Deep Learning. In *Proc. of 2017 International Conference on Machine Learning and Soft Computing (ICMLSC 2017)*, ACM.
23. Tran Minh Tuan, Le Thi Xuan May, Vo Thanh Vinh, **Hien T. Nguyen**, Tuan M. Nguyen (2017). A Weighted Local Mean-based k-Nearest Neighbors Classifier for Time Series. In *Proc. of 9th International Conference on Machine Learning and Computing (ICMLC 2017)*, ACM.
24. Vo Thanh Vinh, **Hien T. Nguyen**, and Tin T. Tran (2016). Instance Reduction for Time Series Classification by Exploiting Representative Characteristics using k-means. *Proceedings of the 5th International Symposium on Integrated Uncertainty in Knowledge Modelling and Decision Making*, IUKM 2016, LNAI **9978**, pp. 217-229. Springer.
25. Vang V. Le, **Hien T. Nguyen**, Vaclav Snasel, Tran Trong Dao (2016). Identify influential spreaders in online social networks based on social Metapath and PageRank. In *Proc. of The 5th International Conference on Computational Social Networks (CSoNet 2016)*, LNCS **9795**, pp. 51-61. Springer.
26. Phuong H.N. Pham, **Hien T. Nguyen**, Vaclav Snasel (2016). Improving Node Similarity for Discovering Community Structure in Complex Networks. In *Proc. of The 5th International Conference on Computational Social Networks (CSoNet 2016)*, LNCS **9795**, pp. 74-85. Springer.
27. Phuc H. Duong, **Hien T. Nguyen**, Ngoc-Tu Huynh (2016). Measuring Similarity for Short Texts on Social Media. In *Proc. of The 5th International Conference on Computational Social Networks (CSoNet 2016)*, LNCS **9795**, pp. 249-259. Springer.
28. Vu H. Nguyen, **Hien T. Nguyen**, Hieu N. Duong, Vaclav Snasel (2016). A syllable-based method for Vietnamese text compression. *Proc. of The 10th International Conference on Ubiquitous Information Management and*

*Communication* (ACM IMCOM 2016).

29. Phuc H. Duong, **Hien T. Nguyen**, Vinh P. Nguyen (2016). Evaluating Semantic Relatedness Between Concepts. *Proc. of The 10th International Conference on Ubiquitous Information Management and Communication* (ACM IMCOM 2016).
30. Hieu N. Duong, Vu H. Nguyen, Tam M. Nguyen, **Hien T. Nguyen**, Vaclav Snasel (2016). The Hybrid Approaches for Forecasting Real Time Multi-step-ahead Boiler Efficiency. *Proc. of The 10th International Conference on Ubiquitous Information Management and Communication* (ACM IMCOM 2016).
31. Vu H. Nguyen, **Hien T. Nguyen**, Hieu N. Duong, Vaclav Snasel (2016). Trigram-based Vietnamese Text Compression. *Proc. of The 8<sup>th</sup> Asian Conference on Intelligent Information and Database Systems* (ACIIDS 2016).
32. Tin Tran, Vinh T. Vo, **Hien T. Nguyen** (2015). Measuring similarity between vehicle speed records using Dynamic Time Warping. In *Proc. of The sixth International Conference on Knowledge and Systems Engineering* (KSE 2015).
33. **Hien T. Nguyen**, Phuc H. Duong and Tuan Q. Le (2015). A Multifaceted Approach to Sentence Similarity. *Proc. of The 4th International Symposium on Integrated Uncertainty in Knowledge Modelling and Decision Making* (IUKM 2015). LNAI **9376**, Springer.
34. Vu H. Nguyen, **Hien T. Nguyen**, Vaclav Snasel. Named entity recognition in Vietnamese tweets. In *Proc. of The 4th International Conference on Computational Social Networks* (CSoNet 2015), LNCS **9197**, Springer.
35. Vu H. Nguyen, **Hien T. Nguyen**, Vaclav Snasel. Normalization of Vietnamese tweets on Twitter. *Proc. of 2nd Euro-China Conference on Intelligent Data Analysis and Applications* (ECC 2015). Springer.
36. Huiling Zhang, Md Abdul Alim, My T. Thai, and **Hien T. Nguyen** (2015). Monitor Placement to Timely Detect Misinformation in Online Social Networks. *The 2015 IEEE International Conference on Communications* (ICC 2015), pp. 2742- 2747.
37. Truc-Vien T. Nguyen and **Hien T. Nguyen** (2014). Combining Local and Global Approaches for Vietnamese Disambiguation to Wikipedia. *The Third Asian Conference on Information Systems* (ACIS 2014), pp.102-109

38. Duy K. Van, Huy M. Huynh, **Hien T. Nguyen**, Vinh T. Vo (2014). Entity Linking for Vietnamese Tweets. In *Proc. of The sixth International Conference on Knowledge and Systems Engineering (KSE 2014)*, Vol 326, pp. 603-615. Springer.
39. **Hien T. Nguyen**, Phuc H. Duong, and Vinh T. Vo (2014). Vietnamese Sentence Similarity Based on Concepts. In *Proc. of 13th International Conference on Computer Information Systems and Industrial Management Applications*, LNCS **8838**, pp. 243-253. Springer.
40. Tien Lu, Bay Vo, **Hien T. Nguyen**, Tzung-Pei Hong (2014). A New Method for Mining High Average Utility Itemsets. In *Proc. of 13th International Conference on Computer Information Systems and Industrial Management Applications*, LNCS **8838**. Springer.
41. **Hien T. Nguyen** (2014). Computing Semantic Similarity for Vietnamese Concepts Using Wikipedia. In *Proc. of The first NAFOSTED Conference on Information and Computer Science (NICS 2014)*.
42. Yong Seung Lee, Xuan Hau Pham, Nguyen Trung Duc, and Jason J. Jung, **Hien T. Nguyen** (2013). Social Context-based Movie Recommendation: a Case Study on MyMovieHistory. In *Proc. of 2nd International Conference on Context-Aware Systems and Applications*, Lecture Notes of ICST (LNICST), Vol. 128, pp 339-348. Springer.
43. **Hien T. Nguyen** (2013). Combining Heuristics and Learning for Entity Linking. In *Proc. of 2nd International Conference on Context-Aware Systems and Applications*, Lecture Notes of ICST (LNICST), Vol. 128, pp 369-378, Springer.
44. **Hien T. Nguyen**, Huy H. Minh, Tru H. Cao, and Trong T. Nguyen (2012). JVN-TDT Entity Linking Systems at TAC-KBP2012. In *Proc. of Text Analysis Conference (TAC 2012)*, National Institute of Standards and Technology, USA.
45. **Hien T. Nguyen**, Tru H. Cao, Nguyen, T. T., and Vo-Thi, T. L. (2012). Heuristics-and statistics-based wikification. In *PRICAI 2012: Trends in Artificial Intelligence* (pp. 879-882), LNAI **7458**, Springer.
46. **Hien T. Nguyen** and Tru H. Cao (2010). Enriching ontologies for named entity disambiguation. In *Proc. of The Fourth International Conference on Advances in Semantic Processing (SEMAYRO 2010)*, ISBN: 978-1-61208-000-0, IARIA, pp. 37-42 (**Best Paper Award**).



47. **Hien T. Nguyen** and Tru H. Cao (2010). Exploring Wikipedia and text features for named entity disambiguation. In *Proc. of the 2nd Asian Conference on Intelligent Information and Database Systems (ACIIDS 2010); Lecture Notes in Computer Science (LNCS)*, vol. **5991**, Springer-Verlag, pp. 11-20.
48. **Hien T. Nguyen** and Tru H. Cao (2008). Named entity disambiguation: A hybrid statistical and rule-based incremental approach. In *Proc. of 3rd Asian Semantic Web Conference (ASWC 2008); LNCS*, vol. **5367**, Springer-Verlag, pp. 420-433.
49. **Hien T. Nguyen** and Tru H. Cao (2008). Named entity disambiguation on an ontology enriched by Wikipedia. In *Proc. of the 6th IEEE International Conference on Research, Innovation and Vision for the Future (RIVF 2008)*, IEEE Xplore, pp. 247-254.
50. **Hien T. Nguyen** and Tru H. Cao (2007). A knowledge-based approach to named entity disambiguation in news articles. In *Proc. of 20th Australian Joint Conference on Artificial Intelligence (AI 2007); LNCS (LNAI)*, vol. 4830, Springer-Verlag, pp. 619–624.
51. **Hien T. Nguyen** and Tru H. Cao (2007). A knowledge-based method to resolve name ambiguity in Vietnamese texts. In *Addendum Contributions of the 5th International Conference on Research, Innovation and Vision for the Future (RIVF 2007)*, Studia Informatica Universalis, pp. 83-88.

#### **Domestic Conferences/Journals**

52. Nguyen Van Huy, Huynh Tuong Nguyen, Nguyen Hua Phung, and **Nguyen Thanh Hien**. (2013). Single-machine scheduling with splittable jobs and availability constraints. *REV Journal on Electronics and Communications*, Vol. 3, No. 1–2.
53. **Nguyễn Thanh Hiên** (2013). Xây Dựng Ontology Tiếng Việt Dựa Vào Wikipedia. *Kỷ yếu Hội thảo quốc gia lần thứ XVI: Một số vấn đề chọn lọc của Công nghệ thông tin và truyền thông*. (in Vietnamese)
54. **Hien T. Nguyen**, & Cao, T. H. (2010). A Wikipedia-Based Method for Named Entity Disambiguation. *Special Issues on Research, Development and Application on Information & Communication Technology, Journal on Information Technologies & Communications*, ISSN 0866-7093, V-1, No.3(23):16-28. (in Vietnamese)

55. **Hien T. Nguyen** & Cao, T. H. (2008). An Approach to Entity Coreference and Ambiguity Resolution in Vietnamese Texts. *Special Issues on Research, Development and Application on Information & Communication Technology, Journal on Information Technologies & Communications*, No. 19:74-83. (in Vietnamese)

#### **Technical Report**

56. **Nguyen Thanh Hien**, Hoang Minh Son, Chau Kim Cuong, Huynh Tan Dat. (2009). Named Entity Based Information Processing. *Technical reports*, Faculty of Computer Science and Engineering, Ho Chi Minh City University of technology, Vietnam.

#### **Theses**

57. **Nguyễn Thanh Hiên** (2011). Named Entity Disambiguation based on Close and Open Ontology. *PhD thesis*, Faculty of Computer Science and Engineering, Ho Chi Minh City University of technology, Vietnam. (in Vietnamese)

58. **Nguyễn Thanh Hiên** (2005). Vietnamese Named Entity Coreference Resolution. *Master thesis*, Faculty of Computer Science and Engineering, Ho Chi Minh City University of technology, Vietnam. (in Vietnamese)

#### **Teaching Courses (recently)**

##### **Undergraduate**

Machine Learning (Fall 2018, Springer 2017, Fall 2016, Spring 2016, Fall 2015, Springer 2015), Introduction to Artificial Intelligence (Spring 2015), Data Structures and Algorithms (Springer 2017, Fall 2014, 2013, 2012), Fundamentals of Programming Languages (Spring 2012), Fundamentals of Programming (Spring 2013, 2012, 2011)

##### **Graduate**

Machine Learning (Fall 2018, Fall 2017 and Spring 2017, Fall 2016 and Spring 2016), Knowledge-based Systems (Spring 2016), Machine Learning (Spring 2015), Knowledge-based Systems (Spring 2015), Knowledge-based Engineering and Applications (Spring 2012)

#### **Students**

##### **Ph.D Students**

[Phuc H. Duong](#) (Duong Hữu Phúc)

Topic: Visual Question Answering

Tran Thi Truong Thi (Trần Thị Trường Thi)

