# Curriculum Vitae

## 1. Personal Information

<u>Name</u>          **Prof. Dr. Virach Sornlertlamvanich**

<u>Position</u>      Professor, Faculty of Data Science,

Musashino University, Japan.

and

Lecturer, Faculty of Engineering,

Thammasat University, Thailand.

and

Chair of Digital Cluster, Research University Network (RUN), Thailand.

<u>Address</u>      Faculty of Data Science, Musashino University,

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and

Faculty of Engineering, Thammasat University

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Pathumthani 12120, Thailand.

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## Education

| Degree | Abbr. | Faculty | University | Year | Country |
|--------|-------|---------|------------|------|---------|
| Bachelor | B. Eng. | Mechanical Eng. | Kyoto University* | 1984 | Japan |
| Master | M. Eng. | Mechanical Eng. | Kyoto University * | 1986 | Japan |
| Doctor | D. Eng. | Computer Eng. | Tokyo Institute of Technology** | 1998 | Japan |

* Monbusho Scholarship    ** Thai Government Scholarship

## Working Experience

- **Oct 2020 - Present**

  Lecturer

  Faculty of Engineering, Thammasat University, Pathumthani, Thailand.

- **Apr 2019 - Present**

  Professor

  Faculty of Data Science, Musashino University, Ariake, Tokyo, Japan.

- **Nov 2016 - Present**

  Chair

  Digital Cluster, Research University Network (RUN), Thailand.

- **Jul 2016 – Jan 2019**

  Assistant to Rector for Research

  Thammasat University, Pathumthani, Thailand.

- **Jan 2015 – Jul 2020**

  Faculty Member

  Sirindhorn International Institute of Technology (SIIT), Thammasat University, Pathumthani, Thailand.

- **Jan 2014 - Dec 2015**

  Advisor to Director

  Technology Promotion Association (Thailand-Japan), Bangkok, Thailand.

- **Oct 2010 - Oct 2013**

  Principal Researcher

  National Electronics and Computer Technology Center (NECTEC), Pathumthani, Thailand.

- **Aug 2008 - Sep 2010**

  Assistant Executive Director

  National Electronics and Computer Technology Center (NECTEC), Pathumthani, Thailand.

- **Oct 2007 - Sep 2010**

  Director

Information and Mobile Application Program (IMA), Cluster and Program Management Office (CPMO), National Science and Technology Development Agency (NSTDA), Pathumthani, Thailand.

- **Apr 2004 - Mar 2010**

  Director

  Thai Computational Linguistics Laboratory (TCL), National Institute of Information and Communications Technology (NICT), Pathumthani, Thailand.

- **May 2003 - Mar 2004**

  Director

  Thai Computational Linguistics Laboratory (TCL), Communications Research Laboratory (CRL), Pathumthani, Thailand.

- **Jan 2001 - Apr 2003**

  Director

  Information Research and Development Division (iTech), National Electronics and Computer Technology Center (NECTEC), Ministry of Science, Technology and Environment, Pathumthani, Thailand.

- **Apr 2000 - Dec 2000**

  Acting Director

  Information Research and Development Division (iTech), National Electronics and Computer Technology Center (NECTEC), Ministry of Science, Technology and Environment, Pathumthani, Thailand.

- **Apr 1999 - Mar 2000**

  Researcher

  Software and Language Engineering Laboratory (SLL), National Electronics and Computer Technology Center (NECTEC), Ministry of Science, Technology and Environment, Bangkok, Thailand.

- **Aug 1999 - Dec 1999**

  Visiting Lecturer

  Universal Networking Language (UNL), United Nations University (UNU), Tokyo, Japan.

- **Oct 1998 – Mar 1999**

  Visiting Researcher

  Machine Understanding Division, Electrotechnical Laboratory (ETL), Tsukuba, Japan.

- **Sep 1992 – Oct 1995**

  Chief Researcher

  Linguistics and Knowledge Science Laboratory (LINKS), National Electronics and Computer Technology Center (NECTEC), Ministry of Science, Technology and Environment, Bangkok, Thailand.

- **Oct 1988 – Aug 1992**

  Researcher

  2nd  Research Department. Research & Development Division, Machine Translation System Laboratory, Center of the International Cooperation   for Computerization (CICC), Tokyo, Japan.

- **Oct 1988 – Aug 1992**

  Engineer

  Application Systems Department, EDP Systems Engineering Division, NEC Corporation, Tokyo , Japan.

- **Apr 1986 – Sep 1988**

  Engineer

  Department of System Engineering, NEC Engineering (Thailand) Co., Ltd., Bangkok, Thailand.

2. <u>**Professional Activities**</u>
   1) **Chair**, Digital Cluster, Research University Network (RUN)
   2) **Director**, Asia-Pacific Association for Machine Translation (AAMT)
   3) **Executive Committee**, Asian Federation of NLP (AFNLP)
   4) **Executive Committee**, World Network for Linguistic Diversity
   5) **Advisor**, Association of Thailand Opensource Software Federation
   6) **Chair and Committee** of many other national and international conferences and committees

3. <u>Research Interest</u>

   1) Natural Language Processing, Computational Linguistics

   2) Machine Translation, Terminology, Corpus

   3) Information Retrieval

   4) Text Mining, Data Mining, Big Data Analysis

   5) Artificial Intelligence, Machine Learning, Knowledge Representation


4. <u>Awards</u>

   1) **National Distinguished Researcher Award 2003, in Information Technology and Communication, awarded by The National Research Council of Thailand**

   2) **Outstanding Alumni Award 2021, Tokyo Tech Alumni Association (Thailand Chapter)**

   3) **Researcher of the Year 2001, awarded by The Nation Newspaper**

   4) **ASEAN Outstanding Engineering Achievement Award 2011, AFEO**

   5) Best student paper award in 2019 The 9th Language & Technology Conference (LTC2019)

   6) Best paper award in 2016 The 11th International Conference on Knowledge, Information and Creativity Support System (KICSS)

   7) Poster Presentation Award in 2016 The 11th International Symposium in Science and Technology

   8) Best paper award in 2009 ACM International Workshop on Intercultural Collaboration

   9) Best paper award in 2009 National Conference on Computing and Information Technology

   10) Consolation Prize for "Software and Device for Supporting Arm, Leg Disabled and Paralysis Impaired Persons in Using Computer", awarded by Thai Research Council for Innovation in Science Technology and Industry section in 2005

   11) Consolation Prize for Thai Text to Speech Engine of 2002, awarded by Thai Research Council for Innovation in Science Technology and Industry section

   12) 10 Best IT events of 2000, awarded by The Nation Newspaper to "ParSit" web-based machine translation

## 5. Publications

### 5.1 International Journal Publications

1) Somrudee Deepaisarn, Paphana Yiwsiw, Sirada Chaisawat, Thanakit Lerttomolsakul, Leeyakorn Cheewakriengkrai, Chanon Tantiwattanapaibul, Suphachok Buaruk, and Virach Sornlertlamvanich, Automated Street Light Adjustment System on Campus with AI-Assisted Data Analytics, Sensors 2023, 23, 1853. https://doi.org/10.3390/s23041853. (SCOPUS CiteScore: 6.4, Q1, IF=4.352)

2) Virach Sornlertlamvanich, Kitiya Suriyachay, Thatsanee Charoenporn. Thai Named Entity Corpus Annotation Scheme and Self Verification by BiLSTM-CNN-CRF. In: Vetulani, Z., Paroubek, P., Kubis, M. (eds) Human Language Technology. Challenges for Computer Science and Linguistics. LTC 2019. Lecture Notes in Computer Science, Vol 13212, 2022, pp.143-160. Springer, Cham. https://doi.org/10.1007/978-3-031-05328-3_10. (SCOPUS CiteScore: 2.1, Q2, IF=0.969)

3) Virach Sornlertlamvanich and Sumeth Yuenyong. Thai Named Entity Recognition using BiLSTM-CNN-CRF enhanced by TCC, Journal of IEEE Access, Vol.10, 2022, pp. 53043-53052, ISSN: 2169-3536, DOI: 10.1109/ACCESS.2022.3175201. (SCOPUS CiteScore: 6.7, Q1, IF=4.342)

4) Sumeth Yuenyong and Virach Sornlertlamvanich. TranSentCut - Transformer Based Thai Sentence Segmentation, Journal of Songklanakarin Journal of Science and Technology (SJST), 2022. (SCOPUS CiteScore: 0.9, Q3, IF=0.602)

5) Sakada Sao and Virach Sornlertlamvanich. Sliding Window Input on Long Short-Term Memory Networks for Bed Position Classification, Journal of Science & Technology Asia (STA), 27(3), Sep, 2022. (SCOPUS CiteScore: 0.5, Q3, IF=0.396)

6) Kitiya Suriyachay, Thatsanee Charoenporn, Virach Sornlertlamvanich and Natsuda Kaothanthong. Enhancement of Character-Level Representation in Bi-LSTM model for Thai NER, Journal of Science & Technology Asia (STA), Vol.26 No.2 (April-June 2021), 2021, pp. 61-78. (SCOPUS CiteScore: 0.5, Q3, IF=0.396)

7) Waranrach Viriyavit and Virach Sornlertlamvanich. Bed Position Classification by a Neural Network and Bayesian Network Using Noninvasive Sensors for Fall Prevention,

Journal of Sensors, Volume 2020, Article ID 5689860, Hindawi, January, 2020, https://doi.org/10.1155/2020/5689860, pp. 1-14. (SCOPUS CiteScore: 1.99, Q2, IF=1.888)

8) Tran Sy Bang, and Virach Sornlertlamvanich. Sentiment Classification for Hotel Booking Review based on Sentence Dependency Structure and Sub-opinion Analysis, IEICE Transactions on Information and Systems, Volume E101.D Issue 4, April 2018, pp. 909-916. (SCOPUS CiteScore: 0.72, Q3, IF=0.5)

9) La-or Kovavisaruch, Taweesak Sanpechuda, Krisada Chinda, Pobsit Kamolvej, and Virach Sornlertlamvanich. Museum Layout Evaluation based on Visitor Statistical History, Asian Journal of Applied Sciences, Vol 5, No 3 (2017), pp. 615-622. (SCOPUS CiteScore: 0.32, Q3)

10) Phat Jotikabukkana, Virach Sornlertlamvanich, Okumura Manabu, and Choochart Haruechaiyasak. Social Media Text Classification by Enhancing Well-Formed Text Trained Model, Journal of ICT Research and Applications, Vol 10, No 2 (2016), pp. 177-196. (SCOPUS CiteScore: 0.62, Q3, IF=0.13)

11) Verayuth Lertnattee, Sinthop Chomya, and Virach Sornlertlamvanich Using Web 2.0 Technologies to Support Collaborative Learning in Herbal Medicine, International Journal of Innovation, Management and Technology vol. 4, no. 2, pp. 290-295, 2013. (IJIMT) (SCOPUS CiteScore: 0.34)

12) Virach Sornlertlamvanich, Thatsanee Charoenporn, Canasai Kruengkraii, and Hitoshi Isahara. Statistical-based Approach to Non-segmented Language Processing, IEICE Transactions on Information and Systems, Vol. E90-D, No.10, pp.1565-1573, October 2007. (Google Scholar citation count: 1) (SCOPUS CiteScore: 0.40, Q3, IF=0.2)

13) Shisanu Tongchim, Virach Sornlertlamvanich, and Hitoshi Isahara. Improving Search Performance: A Lesson Learned from Evaluating Search Engines Using Thai Queries, IEICE Transactions on Information and Systems, Vol. E90-D, No.10, pp.1557-1564, October 2007. (Google Scholar citation count: 3) (SCOPUS CiteScore: 0.40, Q3, IF=0.2)

14) Thatsanee Charoenporn, Canasai Kruengkraii, Thanaruk Theeramunkong, and Virach Sornlertlamvanich. An EM-based Approach for Mining Word Senses from Corpora, IEICE Transactions on Information and Systems, Vol. E90-D, No.4, pp.775-782, April 2007. (SCOPUS CiteScore: 0.40)

15) Thatsanee Charoenporn, Canasai Kruengkraii, Thanaruk Theeramunkong, and Virach Sornlertlamvanich. Construction of Thai Lexicon from Existing Dictionaries and Texts on the Web, IEICE Journal, Transactions on Information and Systems, Vol. E89-D, No.7, pp.2286-2293, July 2006. (Google Scholar citation count: 6) (SCOPUS CiteScore: 0.40)

16) Thepchai Supnithi, Pornchai Tummarattananont, Thatsanee Charoenporn and Virach Sornlertlamvanich. Theoretical-based on Learning Goal in E-learning System, International Journal of the Computer, the Internet and Management (IJCIM), Volume 12, No. 2, 2004. (Google Scholar citation count: 1)

17) Sawit Kasuriya, Virach Sornlertlamvanich, Patcharika Cotsomrong, Supphanat Kanokphara, and Nattanun Thatphithakkul. Thai Speech Recognition Corpora. Journal of Chinese Language and Computing 14(4), 2004. (Google Scholar citation count: 51)

18) Hitoshi Isahara, Ma Qing, Virach Sornlertlamvanich and Naoto Takahashi. ORCHID: building linguistic resources in Thai, Literary and Linguistic Computing (LLC), Vol. 15, Issue 4:2000, Oxford University Press, pp 465-478, November 2000. (Google Scholar citation count: 6) (SCOPUS CiteScore: 0.62)

19) Virach Sornlertlamvanich, Naoto Takahashi and Hitoshi Isahara. Building a Thai Part-Of-Speech Tagged Corpus (ORCHID). The Journal of the Acoustical Society of Japan (E), Vol.20, No.3, pp 189-140, May 1999. (Google Scholar citation count: 12) (SCOPUS CiteScore: 0.52)

20) Kentaro Inui, Virach Sornlertlamvanich, Hozumi Tanaka, and Takenobu Tokunaga. Probabilistic GLR Parsing: A New Formalization and Its Impact on Parsing Performance. Journal of Natural Language Processing 5 (3), 1998. (Google Scholar citation count: 21)

## 5.2 Book

1) Virach Sornlertlamvanich, Information Retrieval, Second Edition, Thammasat University Press, 2018. (in Thai)

2) Virach Sornlertlamvanich and et al. (ed.), Information Modelling and Knowledge Bases XXIX, Frontiers in Artificial Intelligence and Applications, IOS Press, 2018.

3) Virach Sornlertlamvanich, Information Retrieval, Thammasat University Press, 2017. (in Thai)

### 5.3 Book Chapter

1) Tokunaga, Takenobu, Sophia Y. M. Lee, Virach Sornlertlamvanich, Kiyoaki Shirai, Shu-Kai Hsieh, and Chu-Ren Huang. LMF and Its Implementation in Some Asian Languages. In Gil Francopoulo. Ed. LMF : Lexical Markup Framework, Theory and Practice. London : ISTE, pp. 119-132, 2013.

2) Toru Ishida, Yohei Murakami, Eri Tsunokawa, Yoko Kubota, and Virach Sornlertlamvanich. Federated Operation Model for Service Grids, The Language Grid, Springer, pp. 279-298, 2011.

3) Virach Sornlertlamvanich. Thai Grapheme-to-Phoneme by Probabilistic GLR Approach, Computer Processing of Asian Spoken Languages, Shuichi Itahashi and Chiu-yu Tseng eds, Consideration Books, pp. 352-355, March, 2010.

4) Renu Gupta and Virach Sornlertlamvanich. Text Entry in South and Southeast Asian Scripts, Text Entry Systems, I. Scott Mackenzie and Kumiko Tanaka-Ishii eds, Morgan Kaufmann, pp. 227-249, 2007.9

### 5.4 International Conference Publications

- More than 150 papers

### 5.5 Patent

1) Apparatus for position detection of an object on a supporting material (อุปกรณ์กำหนดตำแหน่งบนวัสดุรองรับ), Patent filing number: 1901002763

2) System for position detection of an object on a supporting material (ระบบกำหนดตำแหน่งบนวัสดุรองรับ), Patent filing number: 1901002764

## 6. Other Achievements

### 6.1 National Standards

1) TIS 2730 2559-1 (Metadata for Cultural and Local Wisdom, General)

2) TIS 2730 2559-2 (Metadata for Cultural and Local Wisdom, Video Contents)

3) TIS 2730 2559-3 (Metadata for Cultural and Local Wisdom, Herb)

4) TIS 2730 2559-4 (Metadata for Cultural and Local Wisdom, Weaving Patterns)

**6.2 International Standards**

1)      ISO/TC 37/SC 4 (Language resources management)

2)      ISO/IEC JTC 1/SC 34 (Document description and processing languages)


**6.3 Projects and Copyrights**

1)      **LEXiTRON** : Corpus-based Thai-English Electronic Dictionary

2)      **ParSit** : Web-based English-Thai Machine Translation

3)      **Sansarn** : Web-based Thai-English Search Engine

4)      **Orchid** : Thai Part-of-Speech Tagged Corpus

5)      **Asian WordNet** : WordNet development platform for Asian languages

6)      **LinuxTLE** : Linux Thai Language Extension, Opensource OS

7)      **OfficeTLE** : OpenOffice Thai Language Extension, Opensource Office Suite Software

8)      **Norasi** : Thai Font

9)      **KuiSci** : Knowledge Unifying Initiator for Science,

10)     **KuiHerb** : Knowledge Unifying Initiator for Herbal Information

11)     **KuiPoll** : Knowledge Unifying Initiator for Poll

12)     **EZKey** : Input Assisting System (automatic Thai-English input switching function)

13)     **Smart-Q** : Thai language input for mobile phone

14)     **Digitized Thailand** : Digital platform for knowledge creation and understanding, API marketplace

15)     **Thatian** : Elderly Ecological System Design and Services, Digital platform for sustainable digital economy development

16)     **Thammasat AI City** : AI research platform for Thammasat AI City at Rangsit Campus during 2020-2023