CURRICULUM VITAE

Ye Kyaw Thu, D. Sc.

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PERSONAL DATA

Affiliation	Language and Semantic Technology Laboratory (LST), NECTEC, Thailand
Title	**Professor**
Office Address	112 Phahonyothin Road, Klong Neung, Klong Luang District, Pathumthani 12120, Tel: 0-2564-6900, Fax: 0-2564-6901-3
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RESEARCH INTERESTS

My research interests lie in natural language processing (NLP) and human-computer interaction (HCI). Currently, mainly working on machine translation (MT), automatic speech recognition (ASR) and text to speech (TTS) for low resource languages, but am also interested in other areas such as language acquisition for robot and artificial intelligence (AI). I have a deep interest in machine learning in general and its application to education.

EDUCATION

4/2006 – 10/2011	**Graduate School of Information and Telecommunications Studies, Waseda University**, Tokyo, Japan Degree Conferred: **Doctor of Science** Thesis Title: *Studies on input interface of Asian characters based on common syllabic writing systems*

4/2004 – 3/2006	**Graduate School of Information and Telecommunications Studies, Waseda University**, Tokyo, Japan Degree Conferred: **Master of Science** Thesis Title: *Development of Efficient Input Methods for Myanmar Language Short Messaging Service*
6/1993 – 12/2000	**Dagon University,** Yangon, Myanmar Degree Conferred: **Bachelor of Science (Physics)**
4/2004 – 12/1999	**KMD,** Yangon, Myanmar Diploma Conferred: **International Advanced Diploma Computer in Computer Studies**
6/2007 – 6/1998	**KMD,** Yangon, Myanmar Diploma Conferred: **International Advanced Diploma Computer in Computer Studies** Project Title: *Malaysia Airline Reservation System*

SCHOLARSHIP

3/2010 - 4/2011	Atsumi Scholarship
4/2006 - 3/2009	Japanese Government (Monbukagakusho:MEXT) Scholarship
4/2004 - 3/2006	IMAIZUMI Memorial Burmese Scholarship Foundation
1/2002 - 3/2002	Centre of the International Cooperation for Computerisation (CICC)

WORK EXPERIENCE

1/2019 – Present	**Professor** at National Electronics and Computer Technology Center (NECTEC), Pathumthani, Thailand
5/2020 – Present	**Visiting Professor** at Computer Engineering and Information Technology

Department (CEIT), Yangon Technological University (YTU), Yangon, Myanmar

5/2019 – Present	**Lab Leader** at Language Understanding Lab., Pyin Oo Lwin/Yangon, Myanmar
4/2012 – Present	**Visiting Researcher** at Department of Applied Mathematics, Global Information and Telecommunication Institute (GITI), Waseda University, Tokyo, Japan
11/2018 – 10/2019	**Technical Advisor** at Bagan Innovation Technology, Yangon, Myanmar
9/2016 – 3/2018	**Researcher** at Okayama Prefectural University, Okayama Prefecture, Japan
4/2012 – 3/2016	**Researcher** at Multilingual Translation Laboratory, Universal Communication Research Institute, National Institute of Information and Telecommunications Technology (NICT), Kyoto, Japan
4/2009 – 3/2012	**Research Associate** at Global Information and Telecommunication Studies (GITS), Waseda University, Tokyo, Japan
1/2000 – 6/2002	**Founder/Lecturer** at Graviton Software Development Team, Yangon, Myanmar
5/1998 –11/1999	**Project Manager** at KMD Company Ltd., Yangon, Myanmar

PUBLICATIONS

Journal

Swe Zin Moe, **Ye Kyaw Thu**, Hnin Aye Thant, Nandar Win Min, and Thepchai Supnithi, "Unsupervised Neural Machine Translation between Myanmar Sign Language and Myanmar Language", Journal of Intelligent Informatics and Smart Technology, April 1st Issue, 2020, pp. 53-61. (Submitted December 21, 2019; accepted March 6, 2020; revised March 16, 2020; published online April 30, 2020)

Ni Htwe Aung, **Ye Kyaw Thu**, Su Su Maung, Swe Zin Moe, Hlaing Myat Nwe, "Transfer Learning Based Myanmar Sign Language Recognition for Myanmar Consonants", Journal of Intelligent Informatics and Smart Technology, April 1st Issue, 2020, pp. 35-44. (submitted December 21, 2019; accepted March 6, 2020; revised March 16, 2020; published online April 30, 2020)

Hlaing Myat Nwe, **Ye Kyaw Thu**, Hnin Aye Thant, "Myanmar SignWriting Keyboard Mapping Layout for Fingerspelling", Journal of Intelligent Informatics and Smart Technology, April 1st Issue, 2020, pp.

45-52. (submitted December 21, 2019; accepted March 6, 2020; revised April 25, 2020; published online April 30, 2020)

Khaing Hsu Wai, **Ye Kyaw Thu**, Swe Zin Moe, Hnin Aye Thant, Thepchai Supnithi, "Myanmar (Burmese) String Similarity Measures based on Phoneme Similarity", Journal of Intelligent Informatics and Smart Technology, April 1st Issue, 2020, pp. 27-34. (submitted December 21, 2019; accepted March 6, 2020; revised March 16, 2020; published online April 30, 2020)

Thazin Myint Oo, **Ye Kyaw Thu**, Khin Mar Soe, Thepchai Supnithi, "Statistical Machine Translation of Myanmar Dialects", Journal of Intelligent Informatics and Smart Technology, April 1st Issue, 2020, pp. 14-26. (Submitted December 21, 2019; accepted March 6, 2020; revised March 18, 2020; published online April 30, 2020)

Zar Zar Linn, **Ye Kyaw Thu**, Pushpa B. Patil, "Statistical Machine Translation between Myanmar (Burmese) and Kayah Languages", Journal of Intelligent Informatics and Smart Technology, April 1st Issue, 2020, pp. 62-68. (submitted December 21, 2019; accepted March 6, 2020; revised April 23, 2020; published online April 30, 2020)

Aye Nyein Mon, Win Pa Pa, **Ye Kyaw Thu**, "Improving Myanmar Automatic Speech Recognition with Optimization of Convolutional Neural Network Parameters", International Journal on Natural Language Computing (IJNLC), Vol 7, No 6, December, 2018.

Swe Zin Moe, **Ye Kyaw Thu**, Hlaing Myat Nwe, Hnin Wai Wai Hlaing, Ni Htwe Aung, Khaing Hsu Wai, Hnin Aye Thant, Nandar Win Min, "Development of Natural Language Processing based Communication and Educational Assisted Systems for the People with Hearing Disability in Myanmar", Journal Linguas & Letras, e-ISSN: 1981-4755, ISSN: 1517-7238, Date of Publication online: December/2019, Vol. 20 N. 48 (DOI: 10.5935/1981-4755.20190031)

Aye Nyein Mon, Win Pa Pa, **Ye Kyaw Thu**, "UCSY-SC1: A Myanmar speech corpus for automatic speech recognition", International Journal of Electrical and Computer Engineering (IJECE), Vol. 9, No. 4, August 2019, pp. 3194 3202, ISSN: 2088-8708

Chenchen Ding, **Ye Kyaw Thu**, Masao Utiyama and Eiichiro Sumita, "Word Segmentation for Burmese (Myanmar)", ACM Transactions on Asian and Low-Resource Language Information Processing (TALLIP), Volume 15, Issue 4, May 2016, Article No. 22, pp. 22:1-22:10.

Ye Kyaw Thu and Yoshiyori URANO, "PP_Clickwheel: Positional Prediction Khmer Text Input Interface with Clickwheel for Small Mobile Devices", The Journal of the Institute of Image Electronics Engineers of Japan (IIEEJ), Vol.39, No.5, 2010, pp. 654-662. (published on September, 2010)

Ye Kyaw Thu, Sai Aung Win Maung and Yoshiyori URANO, "Direct Keyboard Mapping (DKM) Layout for Myanmar Fingerspelling Text Input (Study with Developed Fingerspelling Font "mmfingerspelling.ttf")", GITS/GITI Research Bulletin 2009-2010, Waseda University, pp. 127-135. (published on July 31, 2010)

Invited Talks and Others

- I gave an invited talk entitled "Weighted Finite State Transducer based Spelling Checker for Myanmar Language (Burmese)" at the 10th Joint Workshop on Natural Language and Speech Processing, IEEE ICCA 2020, Yangon, Myanmar
- I gave a keynote speech entitled "Weighted Finite State Transducer based Spelling Checker for Myanmar Language (Burmese)" at the 1st University Research Conference on Science & Engineering (URCSE)", 23rd January, 2020, UTYCC, Pyin Oo Lwin, Myanmar
- I gave a keynote speech entitled "NLP R&D for Languages of Myanmar" at the ONA 2019 Conference, 19-20 December, MPTC, Phnom Penh, Cambodia
- I gave a lecture entitled "NLP for Myanmar" at the Hands-on AI and Machine Learning, Nov 30 to Dec 1, UIT, Yangon, Myanmar
- Ye Kyaw Thu, "AI in Myanmar" at MLRS2019, DEPA, Bangkok, Thailand (11 Aug 2019)
- Ye Kyaw Thu, "Natural Language Processing R&D for Myanmar language" at ICCA2019, Yangon, Myanmar (28 Feb 2019)
- Ye Kyaw Thu, "Deep Learning for Myanmar Sign Language Processing" at the Ninth

International Conference on Science and Engineering, 2018, Yangon Technological University (YTU), Yangon, Myanmar (8 Dec 2018)

- Ye Kyaw Thu, "Statistical Vs. Neural Machine Translation" at the Conference on Science and Technology Development 2018, Pyin Oo Lwin, Myanmar (31 Oct 2018)
- Ye Kyaw Thu, "NLP for Myanmar Languages" at the 79th Anniversary of Ashin U Ottama Day and Literature Talk, Singapore (28 Oct 2018)
- Ye Kyaw Thu, "Robot Language Acquisition based on Sequence to Sequence Learning" (morning seminar) and "Challenges of Natural Language Processing Research for Myanmar Language" (evening seminar) at KMD Institute, San Chaung Township, Yangon (19 Sept 2018)
- Ye Kyaw Thu, "Challenges of Natural Language Processing Research for Myanmar Language " at University of Computer Studies (Mandalay), Ta Ohn Village Group, Sint Kaing Township, Kyaut Se District, Mandalay Region, Myanmar (21 Aug 2018)
- Ye Kyaw Thu, "Challenges of Natural Language Processing Research for Myanmar Language " at PACLING 2017, Yangon, Myanmar (16 Aug 2017)
- Ye Kyaw Thu, "HCI, NLP, AI & y" at University of Computer Studies Mandalay (UCSM), Mandalay, Myanmar (4 May 2017)
- Ye Kyaw Thu, "HCI, NLP, AI & y" at University of Technology, Yatanarpon Cyber City (UT-YCC), Pyinoolwin, Myanmar (2 May 2017)
- Ye Kyaw Thu, "Robot Language Acquisition Based on Sequence-to-Sequence Learning", at 2017 International Conference for Leading and Young Computer Scientists (IC-LYCS 2017), Okinawa, Japan (27 Feb 2017)
- Ye Kyaw Thu, "Parsing with Little Languages", at 7th Workshop on Natural Language and Speech Processing, ICCA2017, Yangon, Myanmar (16 Feb 2017)
- Ye Kyaw Thu, "Challenges of Natural Language Processing Research for Under-Resourced Languages, using Myanmar Language as an Example", at KNLP2016, Phnom Penh, Cambodia (12 Dec 2016)
- Ye Kyaw Thu, "Myanmar Word Representations in Vector Space", at 6th NLP Workshop, ICCA2016, Yangon, Myanmar (25 Feb 2016)
- Ye Kyaw Thu, "Machine Translation of VoiceTra App", at BarCamp 2016, Yangon, Myanmar (31 Jan 2016)
- Ye Kyaw Thu, "VoiceTra Speech to Speech Translation App for Myanmar Language" at

University of Computer Studies Taunggyi (17th Dec 2015), Computer University Dawei (22nd Dec 2015) and Computer University Myeik (23 Dec 2015)

- Ye Kyaw Thu, "A Large-scale Study of Statistical Machine Translation Methods for Myanmar Language", (DevCon Yangon 2015), November 21~22, 2015, MICT Park, Yangon, Myanmar.
- Ye Kyaw Thu, "Introduction to SCRATCH (Myanmar Version)", The Sixth Conference on Parallel & Soft Computing (PSC), Dec 29, 2011, University of Computer Studies, Yangon, Myanmar.
- Ye Kyaw Thu, "携帯機器におけるアジア音節言語共通のユーザーフレンドリーな文字入力インターフェース", Atsumi International Scholarship Foundation (AISF) Kenkyuu Hokokukai 2009, March 6, 2010, Kajima Shinkan, Tokyo, Japan.
- Ye Kyaw Thu, "Prototyping with Pictures & Mobile Devices", Young Scholars' Programme of the Asiatic Society of Japan, November 16, 2009, Shibuya Kyoiku Gakuen, Tokyo.
- Ye Kyaw Thu, "Introduction to Concepts of Positional Mapping (PM), Positional Gesture (PG) and Positional Prediction (PP) for Asian Syllabic Languages on Mobile Devices", Waseda University Doctoral Student Network Meeting, December 2, 2008, Waseda University, Tokyo, Japan.
- Ye Kyaw Thu, "Keyboard Mapping and Text Input Interfaces of Asian Languages Based on Word Formation", Myanmar Language Processing Workshop, June 9, 2008, Nagaoka University of Technology, Nagaoka, Japan.

Awards

- Our paper entitled "Statistical Machine Translation of Myanmar Dialects" got "the Workshop Paper Award" at the First Joint Myanmar-Thai NLP/AI R&D Workshop, 2019, Chiang Mai, Thailand
- Best Paper Award for ICCA 2015, "Syllable Pronunciation Features for Myanmar Grapheme to Phoneme Conversion", February 5~6, 2015. (NICT News, No.452 JUN 2015, Page No. 13)
- Special Award (Emerging) for SNLP 20013, "Unsupervised and Semi-supervised Myanmar Word Segmentation Approaches for Statistical Machine Translation", October 28~30, 2013. (NICT News)
- Waseda University Grant for Special Research Projects (Project number: 2011B-215), 2011

- Waseda University Grant for Special Research Projects (Project number: 2009A-901), 2009
- 3rd Prize for ACM Student Research Competition Grand Finals 2009, "Positional Prediction: Common and User Friendly Text Input Interfaces for Asian Syllabic Languages on Mobile Devices", ACM Awards Banquet, San Diego, USA, June 27, 2009
- Waseda University Expense Stipend, Student representative to the 9th APRU Doctoral Students Conference, July 14~18, 2008, Vladivostok, Russia
- Young Author Recognition Certificate of ITU-T Kaleidoscope Academic Conference, "Positional Gesture for Advanced Smart Terminals: Simple Gesture Text Input for Syllabic Scripts Like Myanmar, Khmer and Bangla", May 12~13, 2008
- 2nd Prize for ACM Student Research Competition of CHI 2008, "Positional Prediction: Consonant Cluster Prediction Text Entry Method for Burmese (Myanmar Language)", April 5~10, 2008
- Best Paper Award for ACM MobileHCI 07, "Positional Mapping Myanmar Text Input Scheme for Mobile Devices", September 9~12, 2007
- 1st Prize for student project of IDCS Diploma, "Malaysia Airline Reservation System", 1998

Professional Activities

Reviewer:
- ACM Transactions on Asian and Low-Resource Language Information Processing (TALLIP) 2018, 2019, 2020
- Advanced Robotics, Official Journal of the Robotics Society of Japan (RSJ) (2017)
- APACE 2012 (2012 IEEE Asia-Pacific Conference on Applied Electromagnetics)
- Heliyon Open Access Journal
- ICAIT 2017, ICAIT 2018, ICAIT 2019 (the International Conference on Advanced Information Technologies)
- ICCA 2015, ICCA 2016, ICCA 2017, ICCA 2018 (the International Conference on Computer Applications)
- ICCAIE 2011 (2011 IEEE Conference on Computer Applications & Industrial Electronics)
- ICDL-EPIROB 2018 (the 8th Joint IEEE International Conference on Development and Learning and on Epigenetic Robotics)

- ICIA 2010 (2010 IEEE International Conference on Information and Automation)
- ICMI-MLMI 2009 (11th International Conference on Multimodal Interfaces and the Sixth Workshop on Machine Learning for Multimodal Interaction, Methods and Systems)
- ICOS 2011, ICOS 2012 (IEEE Conference on Open Systems)
- ICTREd 2017 (2017 International Conference on Technological Revolution in Education)
- ISCAIE 2012 (2012 IEEE Symposium on Computer Applications & Industrial Electronics)
- ISWTA 2012 (2012 IEEE Symposium on Wireless Technology & Applications)
- URCSE 2020 (1st University Research Conference on Science and Engineering)

Organizer:

- 早稲田大学-岡山県立大学人工知能ジョイントワークショップ 2017 (The joint workshop between Waseda University and OPU 2017)
- Robotic Symbolic Emergence, Organized Session, the 31st Annual conference of the Japanese Society of Artificial Intelligence (JSAI 2017)
- GII-GITS Workshop on NLP and ICT 2011
- Joint Workshop on Natural Language Processing & Speech Recognition at the International Conference on Computer Applications (ICCA 2011, ICCA 2012, ICCA 2013, ICCA 2014, ICCA 2015, ICCA 2016, ICCA 2017, ICCA 2018, ICCA 2019)
- Workshop on Natural Language Processing for Asian Languages (WNLP_Asian) 2009
- The First Joint Myanmar-Thai NLP/AI R&D Workshop, 2019, Chiang Mai, Thailand
-     Session Chair/Coordinator:
- PACLING 2017
- GII-GITS Workshop on NLP and ICT 2011
- the International Conference on Computer Applications (ICCA 2011, ICCA 2012, ICCA 2013, ICCA 2014, ICCA 2015, ICCA 2016, ICCA 2017, ICCA 2018, ICCA 2019)
- PhD Academy Panel Discussion, What is to be researched for the next 10 years ICT? (10 年後の ICT を目的として何を研究すべきか), GITS/GITI Research Festival 2011
- the 2015 Conference of the Pacific Association for Computational Linguistics (PACLING 2015)
- the 8th International Symposium on Natural Language Processing (SNLP 2009)

Technical Program Committee Member:

- the International Conference on Computer Applications (ICCA 2011, ICCA 2012, ICCA 2013, ICCA 2014, ICCA 2015, ICCA2016, ICCA2017, ICCA2018, ICCA2019, ICCA2020)
- 2011 International Conference on Computer Applications and Industrial Electronics (ICCAIE 2011)
- IEEE International Conference on Information and Automation (IEEE ICIA 2010)
- The International Joint Symposium on Artificial Intelligence and Natural Language Processing (iSAI-NLP 2019, iSAI-NLP 2020)

Consultant:

Research and development of Khmer Keyboard for mobile phone, Information Technology Institute (ITI), Vietnam National University, Vietnam

Volunteer Activities

- Advisor, Association of Pacific Rim Universities Doctoral Student Network (APRU DSN), 2010 to 2012
- Chairperson, Association of Pacific Rim Universities Doctoral Student Network (APRU DSN), 2009 to 2010
- Conference Staff: INTERSPEECH 2010, ABC (Android Bazaar and Conference) 2011 Winter, ABC (Android Bazaar and Conference) 2011 Summer, GDD (Google Developer Day) 2011 Japan
- Executive committee member, Association of Pacific Rim Universities Doctoral Student Network (APRU DSN), 2008 to 2009
- Translation to Myanmar Language: Scratch (https://scratch.mit.edu/)