

## Natural Language Processing and Regular Expression based Services

In this talk I will introduce some of the research projects my research group has done with Natural Language Processing techniques, Regular Expression concepts, and WordNet. Automarking (<http://maiga.athabascau.ca/#automarking>) is a computerized marking mechanism for marking students' answers for open-end questions based on the semantic meaning of those answers with WordNet. My research group also uses Natural Language Processing techniques include n-grams and part-of-speech tags to analyze large datasets like COVID-19 and DBpedia to build online summary generation system (<https://askcovidq.vipresearch.ca/>) and Moodle plugin (<https://ask4summary.vipresearch.ca/>) as well as the valid ngram/PoS identifier service (<https://ngrampos.vipresearch.ca/>) that can help developers and researchers (<https://ws-nlp.vipresearch.ca>), <http://maiga.athabascau.ca/#lord>). On the other hand, we use Regular Expression to uncover hidden relationships in the clinical and administrative healthcare data for predicting the trends and needs for hospitals. Last but not the least, the Regular Expression can also help in terms of predicting the next stop(s) that users may be interested or want to visit (<https://nextstop.vipresearch.ca>).

### For the bio, here is one. Please feel free to make changes if you need.

Dr. Maiga Chang is a Full Professor in the School of Computing and Information Systems at Athabasca University, Canada. His research mainly focus on game-based learning, training and assessment; learning behaviour analysis; learning analytics and academic analytics; intelligent agent technology; health informatics; data mining; computational intelligence; natural language processing; artificial intelligence; museum education mobile learning and ubiquitous learning; healthcare technology, etc.

Dr. Chang is now Chair (2018~2023) of IEEE Technical Committee of Learning Technology (TCLT, <https://tc.computer.org/tclt>), Executive Committee member of IEEE Computer Society Special Technical Communities (<https://www.computer.org/communities/special-technical-communities>), Executive Committee member of Asia-Pacific Society for Computers in Education (2017~2024, APSCE, <https://www.apsce.net/>) and Global Chinese Society for Computing in Education (2016~2025, GCSCE, <http://gcsce.org/>), Vice President (2022~) of International Association of Smart Learning Environments (IASLE, <http://iasle.net/>), and Chair (2021~) of Educational Activities Committee, IEEE Northern Canada Section. Dr. Chang is also a Steering Committee member (2020~) for International Conference on Intelligent Tutoring Systems (ITS, <https://its2021.iis-international.org/>).

Dr. Chang is editors-in-chief (2019~) of Journal of Educational Technology & Society (<https://www.jets.net/>, Open Access SSCI), editor-in-chief (2014~) of International Journal of Distance Education Technologies (<https://igi-global.com/ijdet>, Open Access ESCI, SCOPUS, EI), and editor-in-chief (2020~) of Bulletin of Technical Committee on Learning Technology (<https://tc.computer.org/tclt/bulletin/>, Open Access ESCI).

Dr. Chang has given more than 125 talks and lectures in different events; He has participated in more than 310 international conferences and workshops as a Program Committee Member; and, he also has (co-)authored more than 240 book chapters, journal and international conference papers. He is an IEEE

member since 1996 and also a member of ACM (2001-2017), AAAI (since 2001-2017), INNS (2004-2018), and Phi Tau Phi Scholastic Honor Society.