

# Chanjun Park

UPSTAGE · KOREA UNIVERSITY · NATURAL LANGUAGE PROCESSING & ARTIFICIAL INTELLIGENCE LAB

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## Research Interests

I am currently working as an AI Research Engineer at Upstage. Also I am a MS/Ph.D student in the Department of Computer Science and Engineering at Korea University. My advisor is prof. Heuseok Lim, and I am part of the Natural Language Processing & Artificial Intelligence Lab. I am the founder and leader of KU-NMT Group.

- Data-Centric AI
- Neural Machine Translation
- Domain Specialized Neural Machine Translation
- Ancient Korean Neural Machine Translation
- Simultaneous Speech Translation
- Parallel Corpus Filtering and Mining
- Automatic Post Editing
- Quality Estimation
- Korean Spelling Correction
- Grammar Error Correction
- Speech Recognition Post-Processor
- Dialogue Summarization
- AI for Accessibility
- AI for Education
- Language Resource and Evaluation
- Semantic Search and Information Retrieval
- CX (Customer Experience), UX (User Experience)
- Quality Assurance

## Education

### Korea University

M.S./PH.D IN COMPUTER SCIENCE AND ENGINEERING, GPA: 4.46 / 4.5

- Advisor: Heuseok Lim
- Natural Language Processing & Artificial Intelligence Lab
- Founder and Leader of KU-NMT Group.

Seoul, South Korea

Sep. 2019 - Current

### Busan University of Foreign Studies (BUFS)

B.S. IN NATURAL LANGUAGE PROCESSING & CREATIVE CONVERGENCE, GPA: 4.2 / 4.5

- Advisor: Pummo Ryu
- Full Scholarship

Busan, South Korea

Mar. 2015 - Exp. Aug. 2018

## Academic Services

### COLING 2022

VIRTUAL SOCIAL CHAIR

- COLING 2022: <http://coling2022.org/>
- Virtual Social Chair

South Korea

Sep.2021-Present

### Program committe

PROGRAM COMMITTEE

- ACL 2022, ACL 2022-Insights, NAACL 2022, NAACL 2022-Industry Track

South Korea

January.2021-Present

## Selected Publications

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### **Mimicking Infants' Bilingual Language Acquisition for Domain Specialized Neural Machine Translation**

**Chanjun Park**, Woo-Young Go, Sugyeong Eo, Hyeonseok Moon, Seolhwa Lee, Heuiseok Lim

*IEEE Access* 10 (2022) pp. 38684–38693. IEEE, 2022

### **Word-level Quality Estimation for Korean-English Neural Machine Translation**

Sugyeong Eo, **Chanjun Park**, Hyeonseok Moon, Jaehyung Seo, Heuiseok Lim, **(Equal Contribution (First Co-Author))**

*IEEE Access* 10 (2022) pp. 44964–44973. IEEE, 2022

### **AI Student: A Machine Reading Comprehension System for the Korean College Scholastic Ability Test**

Gyeongmin Kim, Soomin Lee, **Chanjun Park**, Jaechoon Jo

*Mathematics* 10.9 (2022) p. 1486. Multidisciplinary Digital Publishing Institute, 2022

### **An Automatic Post Editing with Efficient and Simple Data Generation Method**

Hyeonseok Moon, **Chanjun Park**, Jaehyung Seo, Sugyeong Eo, Heuiseok Lim, **(Equal Contribution (First Co-Author))**

*IEEE Access* (2022). IEEE, 2022

### **Dense-to-Question and Sparse-to-Answer: Hybrid Retriever System for Industrial Frequently Asked Questions**

Jaehyung Seo, Taemin Lee, Hyeonseok Moon, **Chanjun Park**, Sugyeong Eo, Imatitkua D Aiyanyo, Kinam Park, Aram So, Sungmin Ahn, Jeongbae Park

*Mathematics* 10.8 (2022) p. 1335. MDPI, 2022

### **Should we find another model?: Improving Neural Machine Translation Performance with ONE-Piece Tokenization Method without Model Modification**

**Chanjun Park**, Sugyeong Eo, Hyeonseok Moon, Heui-Seok Lim

*NAACL 2021 - Proceedings of the 2021 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies: Industry Papers*, 2021

### **FreeTalky: Don't Be Afraid! Conversations Made Easier by a Humanoid Robot using Persona-based Dialogue**

**Chanjun Park**, Yoonna Jang, Seolhwa Lee, Sungjin Park, Heuiseok Lim

*AAAI 2022 - Artificial Intelligence for Education(AI4EDU)* (2021). 2021

### **How should human translation coexist with NMT? Efficient tool for building high quality parallel corpus**

**Chanjun Park**, Seolhwa Lee, Hyeonseok Moon, Sugyeong Eo, Jaehyung Seo, Heuiseok Lim

*NeurIPS 2021 - Data-centric AI (DCAI) workshop* (2021). 2021

### **Two Heads are Better than One? Verification of Ensemble Effect in Neural Machine Translation**

**Chanjun Park**, Sungjin Park, Seolhwa Lee, Taesun Whang, Heuiseok Lim

*EMNLP 2021 - Proceedings of the Second Workshop on Insights from Negative Results in NLP*, 2021, Online and Punta Cana, Dominican Republic

### **BTS: Back TranScripton for Speech-to-Text Post-Processor using Text-to-Speech-to-Text**

**Chanjun Park**, Jaehyung Seo, Seolhwa Lee, Chanhee Lee, Hyeonseok Moon, Sugyeong Eo, Heuiseok Lim

*ACL 2021 - Proceedings of the 8th Workshop on Asian Translation (WAT2021)*, 2021, Online

### **Comparative Analysis of Current Approaches to Quality Estimation for Neural Machine Translation**

Sugyeong Eo, **Chanjun Park**, Hyeonseok Moon, Jaehyung Seo, Heuiseok Lim, **(Equal Contribution (First Co-Author))**

*Applied Sciences* 11.14 (2021) p. 6584. Multidisciplinary Digital Publishing Institute, 2021

### **Dealing with the Paradox of Quality Estimation**

Sugyeong Eo, **Chanjun Park**, Hyeonseok Moon, Jaehyung Seo, Heuiseok Lim, **(Equal Contribution (First Co-Author))**

*MT Summit - Proceedings of the 4th Workshop on Technologies for MT of Low Resource Languages (LoResMT2021)*, 2021, Virtual

### **A New Tool for Efficiently Generating Quality Estimation Datasets**

Sugyeong Eo, Chanjun Park, Jaehyung Seo, Hyeonseok Moon, Heuiseok Lim

*NeurIPS 2021 - Data-centric AI (DCAI) workshop*, 2021

### **Grounded Vocabulary for Image Retrieval Using a Modified Multi-Generator Generative Adversarial Network**

Kuekyeng Kim, **Chanjun Park**, Jaehyung Seo, Heuiseok Lim

*IEEE Access* (2021). IEEE, 2021

### **Exploring the Data Efficiency of Cross-Lingual Post-Training in Pretrained Language Models**

Chanhee Lee, Kisu Yang, Taesun Whang, **Chanjun Park**, Andrew Matteson, Heuiseok Lim

*Applied Sciences* 11.5 (2021) p. 1974. Multidisciplinary Digital Publishing Institute, 2021

### **Syntax-enhanced Dialogue Summarization using Syntax-aware information**

Seolhwa Lee, Kisu Yang, **Chanjun Park**, João Sedoc, Heui-Seok Lim

*NeurIPS 2021 16th Women in Machine Learning Workshop*, 2021

### **Towards Syntax-Aware Dialogue Summarization using Multi-task Learning**

Seolhwa Lee, Kisu Yang, **Chanjun Park**, João Sedoc, Heui-Seok Lim

*EMNLP 2021 - Widening NLP (WinLP2021) workshop*, 2021

### **Who speaks like a style of Vitamin: Towards Syntax-Aware Dialogue Summarization using Multi-task Learning**

Seolhwa Lee, Kisu Yang, **Chanjun Park**, João Sedoc, Heuiseok Lim

*IEEE Access* (2021). IEEE, 2021

### **An Empirical Study on Automatic Post Editing for Neural Machine Translation**

Hyeonseok Moon, **Chanjun Park**, Sugyeong Eo, Jaehyung Seo, Heuiseok Lim, **(Equal Contribution (First Co-Author))**

*IEEE Access* 9 (2021) pp. 123754–123763. IEEE, 2021

### **Variational Reward Estimator Bottleneck: Towards Robust Reward Estimator for Multidomain Task-Oriented Dialogue**

Jeiyeon Park, Chanhee Lee, **Chanjun Park**, Kuekyeng Kim, Heuiseok Lim

*Applied Sciences* 11.14 (2021) p. 6624. Multidisciplinary Digital Publishing Institute, 2021

### Automatic Knowledge Augmentation for Generative Commonsense Reasoning

Jaehyung Seo, **Chanjun Park**, Sugyeong Eo, Hyeonseok Moon, Heuseok Lim

NeurIPS 2021 - Data-centric AI (DCAI) workshop, 2021

### Neural Spelling Correction: Translating Incorrect sentences to Correct sentences for Multimedia

**Chanjun Park**, Kuekyeng Kim, YeongWook Yang, Minho Kang, HeuiSeok Lim

Multimedia Tools and Applications (2020) pp. 1–18. Springer, 2020

### Ancient Korean Neural Machine Translation

**Chanjun Park**, Chanhee Lee, YeongWook Yang, Heuseok Lim

IEEE Access 8 (2020) pp. 116617–116625. 2020

### Comparison of the evaluation metrics for Neural Grammatical Error Correction with Overcorrection

**Chanjun Park**, YeongWook Yang, Chanhee Lee, Heuseok Lim

IEEE Access 8 (2020) pp. 106264–106272. 2020

### Decoding Strategies for Improving Low-Resource Machine Translation

**Chanjun Park**, Yeongwook Yang, Kinam Park, Heuseok Lim

Electronics 9.10 (2020) p. 1562. Multidisciplinary Digital Publishing Institute, 2020

## Honors & Awards

2021.12	<b>Naver Ph.D. Fellowship, 2021</b> , Naver	South Korea
2021.10	<b>Best Paper Award (NLP Application 2 Section), 2021</b> , The 33rd Annual Conference on Human & Cognitive Language Technology (HCLT2021)	South Korea
2021.10	<b>Best Paper Award (Language Resource Section), 2021</b> , The 33rd Annual Conference on Human & Cognitive Language Technology (HCLT2021)	South Korea
2021.10	<b>Best Paper Award (QA and Speech Section), 2021</b> , The 33rd Annual Conference on Human & Cognitive Language Technology (HCLT2021)	South Korea
2020.11	<b>1st Place in Flitto Hackathon (Team Lead), 2020</b> , Flitto	South Korea
2020.10	<b>Best Paper Award, 2020</b> , The 32nd Annual Conference on Human & Cognitive Language Technology (HCLT2020)	South Korea
2020.05	<b>Best practices for using NIA AI training data(Korean-English Neural Machine Translation model)</b> , AI Hub	South Korea
2019.10	<b>Best Paper Award, 2019</b> , The 31st Annual Conference on Human & Cognitive Language Technology (HCLT2019)	South Korea
2019.10	<b>1st Place Microsoft AI Accessibility Hackathon in Korea (Team Lead)</b> , Microsoft	South Korea
2019.03	<b>Graduate School Associate Scholarship</b> , Sungkyunkwan University	South Korea
2018.10	<b>Next Generation Information Processing NLP Competition 2018: Participation Award</b> , Next-generation information computing technology development business	South Korea
2017.06	<b>Bit Computer Excellence Award (President Award)</b> , Bit Computer	South Korea
2015-2019	<b>Full Scholarship</b> , BUFS	South Korea
2016-2017	<b>Scholarship for academic excellence</b> , Sooyoungro Church	South Korea

## Selected Research Experience

### Product Search Pack

Seoul, South Korea

RESEARCHER IN UPSTAGE

March. 2022. - Present

- Develop Product Search Pack
- Establishment of evaluation system to develop Product Search Pack and responsible for data, planning, and evaluation
- Quality Assurance for Search System, Gold Testset Planning
- Skills: Data Manager, User Experience (UX), Customer Experience (CX) Quality Assurance (QA)

### (Project) Return on Advertising Spend (ROAS) Prediction Research

Seoul, South Korea

RESEARCHER IN KOREA UNIV

December. 2021. - March. 2022.

- Return on Advertising Spend (ROAS) refers to the ratio of revenue generated by advertising projects to its expense.
- We present a method for predicting ROAS that does not require controlled experiments in data acquisition and validates its effectiveness through comparative experiments. Specifically, we propose a task deposition method that divides the end-to-end prediction task into the two-stage process; occurrence prediction and occurred ROAS regression.
- Supported by Data voucher
- Publication of research paper in Mathematics (SCIE)
- Skills: ROAS, Regression, Pytorch

## **(Project) Hybrid Retriever System for Industrial Frequently Asked Questions Research**

Seoul, South Korea

RESEARCHER IN KOREA UNIV

December. 2021. - March. 2022.

- We propose a method of returning responses to customer inquiries using only data that can be easily obtained from companies based on the deep learning information retrieval module. In this work, we hybridize dense embedding and sparse embedding to make it robust to professional terms and suggest new functions to scale the results returned by the two modules and adjust the weight ratio.
- Supported by Data voucher
- Publication of research paper in Mathematics (SCIE): <https://www.mdpi.com/2227-7390/10/8/1335>
- Skills: Information Retrieval, Pytorch

## **Simultaneous Speech Translation Research**

Seoul, South Korea

RESEARCHER IN KOREA UNIV

December. 2021. - Present

- Research for Simultaneous Speech Translation for MCN Market
- Skills: Neural Machine Translation, Pytorch, Fairseq

## **(Project) NAVER PAPAGO - Parallel Corpus Filtering and Mining**

Seoul, South Korea

RESEARCHER IN KOREA UNIV

December. 2021. - June. 2022.

- Research for Static and Dynamic Parallel Corpus Filtering and Mining
- Human-inspired curriculum learning based NMT
- Supported by NAVER PAPAGO
- Skills: Neural Machine Translation, Parallel corpus filtering, Pytorch, Fairseq

## **Data-centric Neural Machine Translation Research**

Seoul, South Korea

RESEARCHER IN KOREA UNIV

July. 2021. - December. 2021.

- Research for Data-centric Neural Machine Translation, Automatic Post Editing, Quality Estimation, Generative Commonsense Reasoning
- Develop Efficient tool for building high quality parallel corpus and A New Tool for Efficiently Generating Quality Estimation Datasets and A Self-Supervised Automatic Post-Editing Data Generation Tool
- Publication of 3 research paper in NeurIPS 2021 - Data-centric AI (DCAI) workshop: <https://eval.how/dcai2021/index.html>
- Skills: Neural Machine Translation, Web Application, Fairseq

## **Korean Commonsense Generation and Reasoning Research**

Seoul, South Korea

RESEARCHER IN KOREA UNIV

June. 2021. - Present

- KommonGen: A Dataset for Korean Generative Commonsense Reasoning Evaluation
- Publication of research paper in NAACL 2022
- Automatic Knowledge Augmentation for Generative Commonsense Reasoning
- Skills: Commonsense Reasoning, Pytorch, Huggingface

## **Image Retrieval Research**

Seoul, South Korea

RESEARCHER IN KOREA UNIV

June. 2021. - September. 2021.

- Grounded Vocabulary for Image Retrieval Using a Modified Multi-Generator Generative Adversarial Network
- Publication of research paper in IEEE Access (SCIE): <https://ieeexplore.ieee.org/document/9585128>
- Skills: Image Retrieval, Pytorch, Huggingface

## **(Project) Development of patent document invention sentence extraction and key phrase extraction module**

Seoul, South Korea

RESEARCHER IN KOREA UNIV

June. 2021. - December. 2021.

- AI for Patent research
- T5 based Key sentence extraction and key phrase generation
- Supported by "LG Innotek"
- Skills: Automatic Summarization, Sentence classification, Information Extraction Pytorch, Huggingface

## **Dialogue Summarization Research**

Seoul, South Korea

RESEARCHER IN KOREA UNIV

June. 2021. - Present

- Syntax-Aware Dialogue Summarization using Multi-task Learning
- Skills: Dialogue system, Automatic Summarization, Pytorch, Huggingface
- Publication of research paper in EMNLP 2021 -Widening NLP (WiNLP2021) workshop
- Publication of research paper in NeurIPS 2021 - Women in Machine Learning (WiML 2021) workshop
- Publication of research paper in IEEE Access (SCIE): <https://ieeexplore.ieee.org/abstract/document/9664379/>

## **Dialogue System Research**

Seoul, South Korea

RESEARCHER IN KOREA UNIV

April. 2021. - December. 2021

- Robust Reward Estimator for Multidomain Task-Oriented Dialogue
- Publication of research paper in Applied Science (SCIE): <https://www.mdpi.com/2076-3417/11/14/6624>
- BlenderBot 2.0 Errors Analysis in terms of Model, Data and User-Centric Approach
- Publication of research paper in Arxiv: <https://arxiv.org/abs/2201.03239>
- Skills: Dialogue system, Pytorch, Huggingface, ParlAI

## **(Project) Subtitle production and editing technology development for colloquial broadcasting contents**

Seoul, South Korea

RESEARCHER IN KOREA UNIV

April. 2021. - December, 2021.

- Development of Colloquial Aware Neural Machine Translation (CANMT) model that is robust to colloquial expression based on broadcast content
- Consortium: Korea Univ, Hanyang Univ, ON THE IT, SBS Contents Hub, CBS
- Supported by IITP
- Korean Colloquial-Sentence-Splitter(Ko-CSS) for simultaneous speech translation
- Neural Architecture Search(NAS) based NMT Research
- Speech recognition post-processor research
- Cross lingual adaptation research
- Skills: Neural Machine Translation, Automatic Speech Recognition, simultaneous speech translation, Pytorch, Huggingface, Fairseq
- Ko-CSS Demo: <http://nlplab.iptime.org:32285/>

## **BTS: Speech recognition post-processor Research**

Seoul, South Korea

RESEARCHER IN KOREA UNIV

January. 2021. - Present

- Proposed BackTranScript(BTS). Back Transcription (BTS) has seen limited success without the role of phonetic transcription for building and creating vast datasets automatically.
- Publication of research paper in WAT 2021 (ACL Workshop): <https://aclanthology.org/2021.wat-1.10/>
- Skills: Neural Machine Translation, Pytorch, Huggingface, Fairseq

## **Cross Lingual Pretrained Language Model Research**

Seoul, South Korea

RESEARCHER IN KOREA UNIV

January. 2021. - Present

- Research for Exploring the Data Efficiency of Cross-Lingual Post-Training in Pretrained Language Models
- Research for combining BART and Parallel Corpus Filtering
- Publication of research paper in Applied Science (SCIE): <https://www.mdpi.com/2076-3417/11/5/1974>
- Skills: Neural Machine Translation, Pytorch, Huggingface, Fairseq

## **Automatic Post Editing Research**

Seoul, South Korea

RESEARCHER IN KOREA UNIV

January. 2021. - Present

- APE research based on Cross Lingual Pretrained Language Model
- Adapter based APE research
- Publication of research paper in IEEE Access (SCIE): <https://ieeexplore.ieee.org/document/9528385/>
- Research for Efficient and Simple Data Generation Method - Low Resource APE and Pseudo APE data generation
- Publication of research paper in IEEE Access (SCIE): <https://ieeexplore.ieee.org/document/9714400>
- Research for Synthetic Data Generation Using Noising Strategies for Automatic Post-editing
- Publication of research paper in LREC 2022
- Skills: Neural Machine Translation, Pytorch, Automatic Post Editing, Huggingface, Fairseq

## **Quality Estimation Research**

Seoul, South Korea

RESEARCHER IN KOREA UNIV

January. 2021. - Present

- Large Scale PLM based Quality Estimation development and research
- Low Resource QE and Pseudo QE data generation
- Publication of research paper in Applied Science (SCIE): <https://www.mdpi.com/2076-3417/11/14/6584>
- Publication of research paper in MT Summit 2021 - LoresMT Workshop: <https://aclanthology.org/2021.mtsummit-loresmt.1/>
- Publication of research paper in IEEE Access: <https://ieeexplore.ieee.org/document/9761258>
- Skills: Neural Machine Translation, Pytorch, Quality Estimation, OpenKiwi, Huggingface, Fairseq

## **COVID-19 Machine Translation Research**

Seoul, South Korea

RESEARCHER IN KOREA UNIV

May. 2020. - November.2020

- Neural Machine translation specialized for COVID-19 domain
- Skills: Neural Machine Translation, Pytorch, Python
- Publication of research paper in Journal of the Korea Convergence Society(KCI): <https://bit.ly/2QgQKLK>

## **(Project) Domain Specialized Neural Machine Translation (Security)**

Seoul, South Korea

RESEARCHER IN KOREA UNIV

May. 2020. - November.2020

- Research on Neural Machine Translation specialized for security domain
- Supported by "National Security Research Institute"
- Project Manager, Tech Lead
- Development of the latest translation model based on Transformer/BERT, AI-based Korean-English translation model suitable for the security field, and research trend of the latest AI-based translation technology research
- We propose Cross Communication Method (CCM), a new DS-NMT training methodology, inspired by cognitive scientific interpretation of cross language speech perception. This is the first study to reflect cognitive science theory in DS-NMT training methodology.
- Publication of research paper in IEEE Access: <https://ieeexplore.ieee.org/document/9751075>
- Skills: Neural Machine Translation, Pytorch, Python

## **(Project) A Neural-Symbolic Model for Knowledge Acquisition and Inference Techniques**

Seoul, South Korea

RESEARCHER IN KOREA UNIV

April. 2020. - Present

- Neural-Symbolic Model Research and Development
- Skills: Neural Symbolic Computing, Knowledge base, Pytorch, Python
- Supported by IITP
- Demo: <http://nlpplab.iptime.org:32245/>

## **Ancient Korean Neural Machine Translation Research**

Seoul, South Korea

RESEARCHER IN KOREA UNIV

March. 2020. - Present

- Ancient Korean Neural Machine Translation Research
- Bilingual Word Embedding for Ancient Korean Neural Machine Translation
- Priming Ancient Korean Neural Machine Translation Research
- Publication of research paper in IEEE Access(SCIE): <https://ieeexplore.ieee.org/document/9125904/>
- Publication of research paper in LREC 2022
- Skills: Pytorch, Python, REST API, Flask, Neural Machine Translation

## **Deep Learning based Grammar Error Correction Research**

Seoul, South Korea

RESEARCHER IN KOREA UNIV

June. 2019. - June.2020

- Deep learning based English grammar corrector development
- Publication of research paper in IEEE Access(SCIE): <https://ieeexplore.ieee.org/document/9102992>
- Skills: Pytorch, Python, REST API, Flask, Neural Machine Translation

## **Deep Learning based Korean Spelling Correction Research**

Seoul, South Korea

RESEARCHER IN KOREA UNIV

June. 2019. - Present

- Development of Korean spelling corrector based on deep learning
- We propose a gold test set, K-NCT (Korean Neural grammar Correction Test set), for Korean grammar error correction and a new error type classification guideline.
- Publication of research paper in multimedia tools and applications(SCIE): <https://link.springer.com/article/10.1007/s11042-020-09148-2>
- Skills: Pytorch, Python, REST API, Flask, Neural Machine Translation

## **Neural Machine Translation Research**

Seoul, South Korea

RESEARCHER IN KOREA UNIV

June. 2019. - Present

- Deep learning based Korean-English and English-Korean, Korean-Japanese machine translator development
- Research for Parallel Corpus Filtering, Data Augmentation, Various decoding strategies
- Best practices for using NIA AI training data: <http://www.aihub.or.kr/node/4525>
- Publication of research paper in ELECTRONICS(SCIE): <https://www.mdpi.com/2079-9292/9/10/1562#cite>
- Our paper is accepted in NAACL 2021 Industrial Track: "Should we find another model?: Improving Neural Machine Translation Performance with ONE-Piece Tokenization Method without Model Modification"
- How to improve the performance of NMT without changing the model through data pre- and post-processing
- Publication of research paper in NAACL 2021: <https://www.aclweb.org/anthology/2021.naacl-industry.13/>
- Verification of Ensemble Effect in Neural Machine Translation
- Publication of research paper in EMNLP 2021 - Workshop on Insights from Negative Results in NLP: <https://insights-workshop.github.io/2021/cfp/>
- Skills: Pytorch, Python, REST API, Flask, Neural Machine Translation

## **AI for Education Research**

Seoul, South Korea

RESEARCHER IN KOREA UNIV

April. 2019. - Present

- FreeTalky: Don't Be Afraid! Conversations Made Easier by a Humanoid Robot using Persona-based Dialogue
- Publication of research paper in AAAI 2022 - Artificial Intelligence for Education (AI4EDU) workshop: <https://arxiv.org/abs/2112.04126>
- Publication of research paper in LREC 2022
- Automatic Essay Scoring Research
- PEEP-Talk: Deep Learning-based English Education Platform for Personalized Foreign Language Learning
- AI student: A Machine Reading Comprehension System for the Korean College Scholastic Ability Test
- AI for TOEIC: Solving TOEIC Problems Using Simple and Efficient-based Data Augmentation Techniques
- Skills: Pytorch, Python, Google Cloud Platform, REST API, Nao Toolkit

## **AI for Accessibility Research**

Seoul, South Korea

RESEARCHER IN KOREA UNIV

June. 2019. - Present

- PicTalky: Design of augmentative alternative communication (AAC) software for children with developmental disabilities
- 1st Place Microsoft AI Accessibility Hackathon in Korea (Team Lead)
- Award: <https://bit.ly/2vPaZ91>
- PickTalky Demo: <https://pictalky-311.de.r.appspot.com/>
- Skills: Pytorch, Python, Google Cloud Platform, REST API, Nao Toolkit



## **(Project) Research and development of human-inspired multiple intelligence**

RESEARCHER IN KOREA UNIV

- Human-inspired language understanding model
- Funded by the Korea Ministry of Science and ICT (MSIT)
- Site: <http://hiaai.co.kr/>

Seoul, South Korea

September. 2019. - August. 2022

## **(Project) Next-generation information computing technology development business**

RESEARCHER IN KOREA UNIV

- Development of Core Application Techniques for Korean Intelligent Systems
- Research and development of Korean natural language processing core technology

Seoul, South Korea

September. 2019. - January. 2021.

## **(Project) Core technology development of the real-time simultaneous speech translation based on knowledge enhancement**

RESEARCHER IN SYSTRAN

- Collaboration with the Korea Electronics and Telecommunications Research Institute (ETRI) Language Intelligence Research Group
- Director: Dr. Young-Gil Kim (ETRI)
- 3rd year: Real-time lecture interpretation solution development
- 4th year: Busan University of Foreign Studies Field Group Test (FGT) progress and software maintenance
- Skills: JAVA, JAVA FX, Kaldi

Seoul, South Korea

June. 2018. - July. 2019

## **(Project) Neural Machine Translation service for SK Telecom's in-house education program**

RESEARCHER IN SYSTRAN

- Development of automation software to provide translation service to SK Telecom's in-house education program
- Skills: Python

Seoul, South Korea

April. 2019. - April. 2019

## **LCloud-API Platform Service Development**

RESEARCHER IN SYSTRAN

- Planning and development of natural language processing API Platform Service
- Gravitree IO-based platform design, planning, marketing materials production, strategy establishment
- REST API management using Swagger
- Transcription API, Translation API, Address Correction API, Speaker Verification API
- Learned Microservices architecture(MSA), IT Infrastructure
- Skills: Gravitree IO, Microservices architecture(MSA), IT Infrastructure, Mockup, Marketing, Strategic Planning, Technology management, Amazon AWS

Seoul, South Korea

January. 2019. - June. 2019

## **Speech recognition transcription tool development**

RESEARCHER IN SYSTRAN

- Development and maintenance of speech recognition transcription tool, modification and addition of various functions
- Skills: Front End, Spring Boot, Flask, AJAX, MySQL, Kaldi,

Seoul, South Korea

January. 2019. - July. 2019

## **(Project) CJ Logistics Speech Recognition Agent**

RESEARCHER IN SYSTRAN

- CJ Logistics artificial intelligence (AI) virtual assistant project
- Skills: Quality Assurance, Quality control, Mockup, Strategic Planning, Kaldi

Seoul, South Korea

Aug. 2018. - July. 2019

## **Automatic subtitle generation platform service development and planning**

RESEARCHER IN SYSTRAN

- Development and maintenance of automatic subtitle generation platform
- Establish platform service strategies such as B2B and B2C
- Various company contacts and SWOT analysis
- Skills: JAVA, JAVA FX, Kaldi, Mockup, Strategic Planning, Technology management, Marketing

Seoul, South Korea

June. 2018. - June. 2019

## **Planning of English speaking evaluation platform service**

RESEARCHER IN SYSTRAN

- Establishing a service strategy using English speaking evaluation technology
- English speaking evaluation technology Q.A & Q.C
- Skills: Quality Assurance, Quality control, Mockup, Strategic Planning, Technology management, Marketing

Seoul, South Korea

June. 2018. - December. 2018

## **Speech Recognition Research**

RESEARCHER IN SYSTRAN

- Research for Automatic Speech Recognition Technology based on Kaldi
- Acoustic Model, Language Model
- Speaker Verification
- English speaking evaluation
- Real-time speech recognition system
- Skills: Kaldi

Seoul, South Korea

Aug. 2018. - July. 2019

## Neural Machine Translation Research

RESEARCHER IN SYSTRAN

- Research for Neural Machine Translation
- Skills: OpenNMT Tensorflow, OpenNMT Pytorch

Seoul, South Korea

Aug. 2018. - July. 2019

## (Project) Development of multilingual word translation service based on Korean semantics analysis for multicultural family

RESEARCHER IN BUFS

- Han-Tong-E: Multilingual Word Translation Service based on Word Semantic Analysis
- Collaboration with Professor Ok Cheol-young's laboratory at Ulsan University
- Project homepage development
- In-depth understanding of Utagger and seminar on WSD
- Build project-related data and conduct surveys
- Project Page: <https://bufsconv.blogspot.kr/>
- Funded by National Research Foundation of Korea(NRF)

Seoul, South Korea

Sep. 2016. - June. 2018

## (Project) Establishment of Gold Standard language resource bank for Korean machine learning and evaluation (Next-generation information computing technology development business)

RESEARCHER IN BUFS

- For the purpose of developing Korean Natural Language Toolkit
- Development of automatic Korean word spacing and Korean compound noun decomposer
- Skills: Python

Seoul, South Korea

Sep. 2017. - June. 2018

## (Project) Local industry development project in connection with public institutions

RESEARCHER IN BUFS

- ICT VAEMS: Vertical Aquaculture Energy Management
- Funded by the Korea Institute for Advancement of Technology(KIAT)

Seoul, South Korea

Sep. 2016. - Aug. 2017

## (Project) Basic Research on Semantic Frame Generation for Short Questions (ExoBrain)

RESEARCHER IN BUFS

- Exobrain Project

Seoul, South Korea

Oct. 2015. - Feb. 2016

## Professional Experience

### Upstage

AI RESEARCH ENGINEER

- Product Search Team
- Establishment of evaluation system to develop Product Search Pack and responsible for data, planning, and evaluation
- Proceeding with a semantic search-based commercialization project with AMOREPACIFIC
- Semantic Search project with LG U+

Seoul, South Korea

March. 2022 - Present

### SYSTRAN

RESEARCH ENGINEER

- Automatic Speech Recognition(ASR) Team
- Core technology development of the real-time simultaneous speech translation based on knowledge enhancement (ETRI)
- Participated in NTT Docomo speech Recognition Solution Project
- Participated in CJ Logistics speech recognition agent development project
- Participated in Samsung SDS speech recognition project
- Speech recognition service planning and development (Real-time lecture interpretation, Automatic subtitle generation service, English speaking evaluation, Customer-specific recognizer service, Web RTC-based Real-time video interpretation)
- Deep learning based speech recognition research (Acoustic Model, Language Model Training)
- Machine Translation research
- IaaS and PaaS service planning, API Platform service operation planning, B2B B2C planning and development
- Micro Service Architecture Design and Successful API Platform Service Launching Experience (LCloud)
- Governmental project proposal experience
- Reason for leaving: Graduate school

Seoul, South Korea

Sep. 2018 - July. 2019

### SYSTRAN

RESEARCH INTERN

- Automatic Speech Recognition(ASR) Team
- Participated a project "Core technology development of the real-time simultaneous speech translation based on knowledge enhancement (ETRI)"
- Developed Simultaneous Speech Translation (implemented using JAVA, Python and Kaldi)

Seoul, South Korea

June. 2018 - August. 2018

## Skills



<b>Programming</b>	JAVA, Python, C / C++
<b>Machine Learning &amp; Deep Learning</b>	Pytorch, Keras, Tensorflow, Huggingface, OpenNMT, Kaldi
<b>Natural Language Processing</b>	Machine Translation, Speech Recognition, Neuro-Symbolic Computing
<b>Full Stack</b>	Html, CSS, Javascript, Java FX, Oracle, MySQL, Spring Boot, VertX, AWS
<b>Strategy &amp; Planning</b>	API Platform Service, Platform Service Planning, Gravitree IO, Paas, Iaas, Q.A, Q.C, Mockup, Swagger
<b>Etc</b>	MS Office, Redmine, Linux, Docker, Web RTC, Latex
<b>Language Skills</b>	Korean, English, Japanese, Thai, Myanmar

## Patents

2019.12	<b>Device and method for correcting Korean spelling</b> , Apply for a patent	South Korea
2020.09	<b>APPARATUS AND METHOD FOR OUTPUTTING IMAGE CORRESPONDING TO LANGUAGE</b> , Apply for a patent	South Korea
2020.09	<b>METHOD OF TRANSLATING ANCIENT KOREAN USING MACHINE TRANSLATION</b> , Apply for a patent	South Korea
2022.04	<b>Correction performance evaluation metrics of neural network machine translation and method of constructing the same</b> , Granted Patent (10-2390154)	South Korea
2020.09	<b>METHOD OF BUILDING TRAINING DATA OF MACHINE TRANSLATION</b> , Apply for a patent	South Korea
2021.03	<b>Improving speech recognition performance using TTS in domain-specific environment</b> , Apply for a patent	South Korea
2021.05	<b>Method For Generating Training Data And Method For Post-Processing Of Speech Recognition Using The Same</b> , Apply for a patent	South Korea
2021.09	<b>DEVICE AND METHOD FOR GENERATING OPTIMAL TRANSLATION SUBTITLE USING QUALITY ESTIMATION</b> , Apply for a patent	South Korea
2021.09	<b>DEVICE AND METHOD FOR GENERATING TRAINING DATA FOR AUTOMATIC POST EDITING</b> , Apply for a patent	South Korea
2021.09	<b>METHOD OF BUILDING TRAINING DATA OF MACHINE TRANSLATION</b> , PCT International Application	South Korea
2021.09	<b>APPARATUS FOR CORPUS PROCESSING, APPARATUS AND METHOD AND MACHINE TRANSLATION</b> , Apply for a patent	South Korea
2021.11	<b>DEVICE AND METHOD FOR GENERATING OF TRAINING DATA FOR QUALITY ESTIMATION IN MACHINE TRANSLATION</b> , Apply for a patent	South Korea

## Demo

2019.12	<b>Deep Learning based English Grammar Error Correction</b> , <a href="http://nlplab.iptime.org:32292/">http://nlplab.iptime.org:32292/</a>	South Korea
2019.12	<b>Deep Learning based Korean Spelling Correction</b> , <a href="http://nlplab.iptime.org:32288/">http://nlplab.iptime.org:32288/</a>	South Korea
2020.01	<b>Korea University Neural Machine Translation Platform</b> , <a href="http://nlplab.iptime.org:32296/">http://nlplab.iptime.org:32296/</a>	South Korea
2020.02	<b>Neural Symbolic Inference</b> , <a href="http://nlplab.iptime.org:32245/">http://nlplab.iptime.org:32245/</a>	South Korea
2020.02	<b>English Free Talking and Grammar Error Correction Feed Back System using NAO Robot</b> , <a href="https://www.youtube.com/watch?v=Rl6dG_4cnFk">https://www.youtube.com/watch?v=Rl6dG_4cnFk</a>	South Korea
2020.03	<b>Korean Ancient Neural Machine Translation Platform</b> , <a href="http://nlplab.iptime.org:32242/">http://nlplab.iptime.org:32242/</a>	South Korea
2020.03	<b>PicTalky: Text to Pictogram Demo for Children with Developmental Disabilities</b> , <a href="https://pictalky-311.de.r.appspot.com/">https://pictalky-311.de.r.appspot.com/</a>	South Korea
2020.05	<b>COVID-19 Machine Translation Platform</b> , <a href="http://nlplab.iptime.org:32250/">http://nlplab.iptime.org:32250/</a>	South Korea
2020.07	<b>Ancient Korean Translation &amp; Machine Reading Comprehension with NAO</b> , <a href="https://www.youtube.com/watch?v=nXBZe-t9a-4&amp;t=8s">https://www.youtube.com/watch?v=nXBZe-t9a-4&amp;t=8s</a>	South Korea
2020.11	<b>Bilingual Education Using NAO</b> , <a href="https://www.youtube.com/watch?v=4kCMMa62LDY&amp;t=9s">https://www.youtube.com/watch?v=4kCMMa62LDY&amp;t=9s</a>	South Korea
2021.04	<b>Ko-CSS (Korean Colloquial-Sentence-Splitter) for simultaneous speech translation</b> , <a href="http://nlplab.iptime.org:32285/">http://nlplab.iptime.org:32285/</a>	South Korea
2021.06	<b>BTS (BackTranScription) for STT Post-Processor</b> , <a href="https://backtrans-317413.de.r.appspot.com/">https://backtrans-317413.de.r.appspot.com/</a>	South Korea
2021.09	<b>Translation platform with AIHUB dataset</b> , <a href="http://nlplab.iptime.org:32247/">http://nlplab.iptime.org:32247/</a>	South Korea
2021.09	<b>Con-Talky</b> , <a href="http://nlplab.iptime.org:32245/">http://nlplab.iptime.org:32245/</a>	South Korea
2021.09	<b>Korea University English Grammar Corrector KakaoTalk Channel</b> , <a href="http://pf.kakao.com/_cqxkps">http://pf.kakao.com/_cqxkps</a>	South Korea
2021.09	<b>PEEP-Talk</b> , <a href="http://pf.kakao.com/_F1Dxgs">http://pf.kakao.com/_F1Dxgs</a>	South Korea
2021.10	<b>A Tool for generating High-Quality Parallel Corpus considering Human Translation Market</b> , <a href="http://nlplab.iptime.org:9090/">http://nlplab.iptime.org:9090/</a>	South Korea
2021.10	<b>A New Tool for Efficiently Generating Quality Estimation Datasets</b> , <a href="http://nlplab.iptime.org:9091/">http://nlplab.iptime.org:9091/</a>	South Korea
2021.11	<b>A Self-Supervised Automatic Post-Editing Data Generation Tool</b> , <a href="http://nlplab.iptime.org:9092/">http://nlplab.iptime.org:9092/</a>	South Korea

## Invited Talk & Teaching Experience

### Dongguk University

PRESENTER

- Artificial intelligence and Machine Translation lectures (3 times)
- Invited by Dongguk University, Department of English Language and Literature

South Korea

January. 2022

### Korea University

TEACHING ASSISTANT

- (BDC101) Introduction to Natural Language Processing in Big Data

South Korea

Autumn 2021

### Busan Social Welfare Development Institute

INVITED ADVISOR

- Attending advisory meetings and Focus Group Interview
- ICT-Based Ecosystem Construction Plan to Secure Opportunities to Enjoy Together - A Study on Developmental Disabilities

South Korea

July. 2021

### Korea University

HEAD TEACHING ASSISTANT

- (BDC101) Introduction to Natural Language Processing in Big Data
- (DFE610) Natural Language Processing for Digital Finance Engineering

South Korea

Autumn 2020

### Korea University

TEACHING ASSISTANT

- (COSE461) Natural Language Processing
- (DFC615) Artificial Intelligence and Natural Language Processing
- Lecture materials: <https://github.com/Parkchanjun/KU-NLP-2020-1>

South Korea

Spring 2020

### LLsoLLu

PRESENTER

- Latest natural language processing trends
- Language Representation, Neural Symbolic Computing
- Invited by LLsoLLu Global Strategy and Planning Team

South Korea

March. 2020

### NC SOFT

PRESENTER

- Technology Transfer Seminar
- Korean Spelling Corrector Using Automatic Noise Generation Methodology
- Invited by NC SOFT Language AI Team

South Korea

February. 2020

### Dongguk University

PRESENTER

- A.I - NLP - MT for Liberal Arts
- Introduction to Natural Language Processing, RBMT, SMT, NMT, OpenNMT
- Invited by Dongguk University, Department of English Language and Literature professor. Myung-Kwan Park
- Lecture materials: [https://github.com/Parkchanjun/Dongguk\\_AI\\_NLP\\_MachineTranslation](https://github.com/Parkchanjun/Dongguk_AI_NLP_MachineTranslation)

South Korea

January. 2020

### SKC

INSTRUCTOR

- Deep Learning and Natural Language Processing Course
- Introduction of Text Preprocessing and NLP for Linguistics
- Introduction of Word Embedding
- Introduction of Machine Translation
- Lecture materials(Text Preprocessing): [https://github.com/Parkchanjun/SKC\\_Text\\_Preprocessing](https://github.com/Parkchanjun/SKC_Text_Preprocessing)
- Lecture materials(Introduction of Machine Translation): [https://github.com/Parkchanjun/SKC\\_MachineTranslation](https://github.com/Parkchanjun/SKC_MachineTranslation)

South Korea

Oct. 2019 - Nov. 2019

### Naver Tech Talk

PRESENTER

- Machine Translation for Everyone
- Invited by Sung Kim who are the Head of Naver Clova A.I
- Lecture videos: <https://tv.naver.com/v/9906991>

South Korea

Aug. 2019

### SK T Academy

INSTRUCTOR

- Machine Translation for Everyone
- Invited by SK Planet
- Introduction to Natural Language Processing, RBMT, SMT, NMT, OpenNMT
- Lecture videos: <https://tacademy.skplanet.com/live/player/onlineLectureDetail.action?seq=165>

South Korea

Aug. 2019

## Sooyoungro Church

### INSTRUCTOR

- Sooyoungro Church Dream Bowl School Instructor (Free Service)
- Basic English Grammar and English Conversation Education

South Korea

Aug. 2017 - Dec.2017

## Korea Press Foundation

### INSTRUCTOR

- Reading mentoring

South Korea

Aug. 2015 - Dec.2015

# All Publications

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## PREPRINTS

### Empirical study on BlenderBot 2.0 Errors Analysis in terms of Model, Data and User-Centric Approach

Jungseob Lee, Midan Shim, Suhhyune Son, Yujin Kim, **Chanjun Park**, Heuseok Lim, **(Equal Contribution (First Co-Author))**

arXiv preprint arXiv:2201.03239 (2022). 2022

### PicTalky: Augmentative and Alternative Communication Software for Language Developmental Disabilities

**Chanjun Park**, Yoonna Jang, Seolhwa Lee, Jaehyung Seo, Kisu Yang, Heuseok Lim

arXiv preprint arXiv:2109.12941 (2021). 2021

### Empirical Analysis of Korean Public AI Hub Parallel Corpora and in-depth Analysis using LIWC

**Chanjun Park**, Midan Shim, Sugyeong Eo, Seolhwa Lee, Jaehyung Seo, Hyeonseok Moon, Heuseok Lim

arXiv preprint arXiv:2110.15023 (2021). 2021

### A Self-Supervised Automatic Post-Editing Data Generation Tool

Hyeonseok Moon, **Chanjun Park**, Sugyeong Eo, Jaehyung Seo, SeungJun Lee, Heuseok Lim

arXiv preprint arXiv:2111.12284 (2021). 2021

## TOP CONFERENCE

### Should we find another model?: Improving Neural Machine Translation Performance with ONE-Piece Tokenization Method without Model Modification

**Chanjun Park**, Sugyeong Eo, Hyeonseok Moon, Heui-Seok Lim

NAACL 2021 - Proceedings of the 2021 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies: Industry Papers, 2021

### FreeTalky: Don't Be Afraid! Conversations Made Easier by a Humanoid Robot using Persona-based Dialogue

**Chanjun Park**, Yoonna Jang, Seolhwa Lee, Sungjin Park, Heuseok Lim

AAAI 2022 - Artificial Intelligence for Education(AI4EDU) (2021). 2021

### How should human translation coexist with NMT? Efficient tool for building high quality parallel corpus

**Chanjun Park**, Seolhwa Lee, Hyeonseok Moon, Sugyeong Eo, Jaehyung Seo, Heuseok Lim

NeurIPS 2021 - Data-centric AI (DCAI) workshop (2021). 2021

### Two Heads are Better than One? Verification of Ensemble Effect in Neural Machine Translation

**Chanjun Park**, Sungjin Park, Seolhwa Lee, Taesun Whang, Heuseok Lim

EMNLP 2021 - Proceedings of the Second Workshop on Insights from Negative Results in NLP, 2021, Online and Punta Cana, Dominican Republic

### BTS: Back TranScripton for Speech-to-Text Post-Processor using Text-to-Speech-to-Text

**Chanjun Park**, Jaehyung Seo, Seolhwa Lee, Chanhee Lee, Hyeonseok Moon, Sugyeong Eo, Heuseok Lim

ACL 2021 - Proceedings of the 8th Workshop on Asian Translation (WAT2021), 2021, Online

### Dealing with the Paradox of Quality Estimation

Sugyeong Eo, **Chanjun Park**, Hyeonseok Moon, Jaehyung Seo, Heuseok Lim, **(Equal Contribution (First Co-Author))**

MT Summit - Proceedings of the 4th Workshop on Technologies for MT of Low Resource Languages (LoResMT2021), 2021, Virtual

### A New Tool for Efficiently Generating Quality Estimation Datasets

Sugyeong Eo, Chanjun Park, Jaehyung Seo, Hyeonseok Moon, Heuseok Lim

NeurIPS 2021 - Data-centric AI (DCAI) workshop, 2021

### Syntax-enhanced Dialogue Summarization using Syntax-aware information

Seolhwa Lee, Kisu Yang, **Chanjun Park**, João Sedoc, Heui-Seok Lim

NeurIPS 2021 16th Women in Machine Learning Workshop, 2021

### Towards Syntax-Aware Dialogue Summarization using Multi-task Learning

Seolhwa Lee, Kisu Yang, **Chanjun Park**, João Sedoc, Heui-Seok Lim

EMNLP 2021 - Widening NLP (WiNLP2021) workshop, 2021

### Automatic Knowledge Augmentation for Generative Commonsense Reasoning

Jaehyung Seo, **Chanjun Park**, Sugyeong Eo, Hyeonseok Moon, Heuseok Lim

NeurIPS 2021 - Data-centric AI (DCAI) workshop, 2021

## INTERNATIONAL JOURNAL

### Mimicking Infants' Bilingual Language Acquisition for Domain Specialized Neural Machine Translation

**Chanjun Park**, Woo-Young Go, Sugyeong Eo, Hyeonseok Moon, Seolhwa Lee, Heuseok Lim

IEEE Access 10 (2022) pp. 38684–38693. IEEE, 2022

### Word-level Quality Estimation for Korean-English Neural Machine Translation

Sugyeong Eo, **Chanjun Park**, Hyeonseok Moon, Jaehyung Seo, Heuiseok Lim, **(Equal Contribution (First Co-Author))**

*IEEE Access* 10 (2022) pp. 44964–44973. IEEE, 2022

### AI Student: A Machine Reading Comprehension System for the Korean College Scholastic Ability Test

Gyeongmin Kim, Soomin Lee, **Chanjun Park**, Jaechoon Jo

*Mathematics* 10.9 (2022) p. 1486. Multidisciplinary Digital Publishing Institute, 2022

### An Automatic Post Editing with Efficient and Simple Data Generation Method

Hyeonseok Moon, **Chanjun Park**, Jaehyung Seo, Sugyeong Eo, Heuiseok Lim, **(Equal Contribution (First Co-Author))**

*IEEE Access* (2022). IEEE, 2022

### Dense-to-Question and Sparse-to-Answer: Hybrid Retriever System for Industrial Frequently Asked Questions

Jaehyung Seo, Taemin Lee, Hyeonseok Moon, **Chanjun Park**, Sugyeong Eo, Imatitkua D Aiyanyo, Kinam Park, Aram So, Sungmin Ahn, Jeongbae Park

*Mathematics* 10.8 (2022) p. 1335. MDPI, 2022

### Comparative Analysis of Current Approaches to Quality Estimation for Neural Machine Translation

Sugyeong Eo, **Chanjun Park**, Hyeonseok Moon, Jaehyung Seo, Heuiseok Lim, **(Equal Contribution (First Co-Author))**

*Applied Sciences* 11.14 (2021) p. 6584. Multidisciplinary Digital Publishing Institute, 2021

### Grounded Vocabulary for Image Retrieval Using a Modified Multi-Generator Generative Adversarial Network

Kuekyeng Kim, **Chanjun Park**, Jaehyung Seo, Heuiseok Lim

*IEEE Access* (2021). IEEE, 2021

### Exploring the Data Efficiency of Cross-Lingual Post-Training in Pretrained Language Models

Chanhee Lee, Kisu Yang, Taesun Whang, **Chanjun Park**, Andrew Matteson, Heuiseok Lim

*Applied Sciences* 11.5 (2021) p. 1974. Multidisciplinary Digital Publishing Institute, 2021

### Who speaks like a style of Vitamin: Towards Syntax-Aware Dialogue Summarization using Multi-task Learning

Seolhwa Lee, Kisu Yang, **Chanjun Park**, João Sedoc, Heuiseok Lim

*IEEE Access* (2021). IEEE, 2021

### An Empirical Study on Automatic Post Editing for Neural Machine Translation

Hyeonseok Moon, **Chanjun Park**, Sugyeong Eo, Jaehyung Seo, Heuiseok Lim, **(Equal Contribution (First Co-Author))**

*IEEE Access* 9 (2021) pp. 123754–123763. IEEE, 2021

### Variational Reward Estimator Bottleneck: Towards Robust Reward Estimator for Multidomain Task-Oriented Dialogue

Jeiyeon Park, Chanhee Lee, **Chanjun Park**, Kuekyeng Kim, Heuiseok Lim

*Applied Sciences* 11.14 (2021) p. 6624. Multidisciplinary Digital Publishing Institute, 2021

### Neural Spelling Correction: Translating Incorrect sentences to Correct sentences for Multimedia

**Chanjun Park**, Kuekyeng Kim, YeongWook Yang, Minho Kang, HeuiSeok Lim

*Multimedia Tools and Applications* (2020) pp. 1–18. Springer, 2020

### Ancient Korean Neural Machine Translation

**Chanjun Park**, Chanhee Lee, YeongWook Yang, Heuiseok Lim

*IEEE Access* 8 (2020) pp. 116617–116625. 2020

### Comparison of the evaluation metrics for Neural Grammatical Error Correction with Overcorrection

**Chanjun Park**, YeongWook Yang, Chanhee Lee, Heuiseok Lim

*IEEE Access* 8 (2020) pp. 106264–106272. 2020

### Decoding Strategies for Improving Low-Resource Machine Translation

**Chanjun Park**, Yeongwook Yang, Kinam Park, Heuiseok Lim

*Electronics* 9.10 (2020) p. 1562. Multidisciplinary Digital Publishing Institute, 2020

## INTERNATIONAL CONFERENCE

### A Study on Jeju Dialect ASR processor using BackTranScriptio

**Chanjun Park**, Jaehyung Seo, Seolhwa Lee, Heonseok Moon, Sugyeong Eo, Yoonna Jang, HeuiSeok Lim

*International Conference on Interdisciplinary Research on Computer Science, Psychology, and Education (ICICPE 2021)*, 2021

### Cross-lingual Zero-shot Transfer for Quality Estimation

Sugyeong Eo, **Chanjun Park**, Jaehyung Seo, Heonseok Moon, HeuiSeok Lim

*International Conference on Interdisciplinary Research on Computer Science, Psychology, and Education (ICICPE 2021)*, 2021

### Proposal of Automatic Essay Scoring Method Using 4-level Natural Language Analysis

Yujin Kim, **Chanjun Park**, Seolhwa Lee, HeuiSeok Lim

*International Conference on Interdisciplinary Research on Computer Science, Psychology, and Education (ICICPE 2021)*, 2021

### Error Type Categorization Criteria for Korean Spelling Correction

Seonmin Koo, **Chanjun Park**, HeuiSeok Lim

*International Conference on Interdisciplinary Research on Computer Science, Psychology, and Education (ICICPE 2021)*, 2021

### A High-level Machine Reading Comprehension Model

Jeongwoo Lee, Hyeonseok Moon, **Chanjun Park**, HeuiSeok Lim

*International Conference on Interdisciplinary Research on Computer Science, Psychology, and Education (ICICPE 2021)*, 2021

### Comparative study of Korean speech recognition based on SpecAugment and Kaldi

Seounghoon Lee, **Chanjun Park**, Jaehyung Seo, Gyeongmin Kim, HeuiSeok Lim

*International Conference on Interdisciplinary Research on Computer Science, Psychology, and Education (ICICPE 2021)*, 2021

### Context Detector: Persona Based Natural Conversation using Conversational Agent

Seungjun Lee, Yoonna Jang, **Chanjun Park**, HeuiSeok Lim

*International Conference on Interdisciplinary Research on Computer Science, Psychology, and Education (ICICPE 2021), 2021*

**Domain Specialized Automatic Post Editing System**

Heonseok Moon, **Chanjun Park**, Jaehyung Seo, Sugyeong Eo, HeuiSeok Lim

*International Conference on Interdisciplinary Research on Computer Science, Psychology, and Education (ICICPE 2021), 2021*

**Korean Generative Commonsense Reasoning**

Jaehyung Seo, **Chanjun Park**, Heonseok Moon, Sugyeong Eo, HeuiSeok Lim

*International Conference on Interdisciplinary Research on Computer Science, Psychology, and Education (ICICPE 2021), 2021*

**AI for Construction: Development of communication platform for construction field using Natural Language Processing**

Midan Shim, **Chanjun Park**, Yuna Hur, HeuiSeok Lim

*International Conference on Interdisciplinary Research on Computer Science, Psychology, and Education (ICICPE 2021), 2021*

**Categorization of Common Error Types in the Off-the-shelf ASR systems for Korean**

Junyoung Son, **Chanjun Park**, Jaehyung Seo, HeuiSeok Lim

*International Conference on Interdisciplinary Research on Computer Science, Psychology, and Education (ICICPE 2021), 2021*

**A Comparative Study on Korean Relation Extraction with entity position information**

SuhYune Son, Yuna Hur, Jungwoo Lim, Midan Shim, **Chanjun Park**, HeuiSeok Lim

*International Conference on Interdisciplinary Research on Computer Science, Psychology, and Education (ICICPE 2021), 2021*

**PicTalky: Deep learning-based speech therapy platform for developmental disabilities**

**Chanjun Park**, Yanghee Kim, Yoonna Jang, Umadevi G.R, HeuiSeok Lim

*The International Conference on Big data, IoT, and Cloud Computing, 2020*

**Domain-specialize Neural Machine Translation Methodology**

**Chanjun Park**, HeuiSeok Lim

*International conference on Interdisciplinary research on Computer Science, Psychology, and Education, 2020*

**Toward High Quality Parallel Corpus Using Monolingual Corpus**

**Chanjun Park**, Youngdae Oh, Jongkeun Choi, Dongpil Kim, HeuiSeok Lim

*The 10th International Conference on Convergence Technology, 2020*

**Data Augmentation Method for Korean Neural Machine Translation**

**Chanjun Park**, Kinam Park, HeuiSeok Lim

*INTERNATIONAL CONFERENCE ON INFORMATION, SYSTEM AND CONVERGENCE APPLICATIONS, 2020*

**Self- Supervised Korean Spelling Correction via Denoising Transformer**

**Chanjun Park**, Sungjin Park, HeuiSeok Lim

*INTERNATIONAL CONFERENCE ON INFORMATION, SYSTEM AND CONVERGENCE APPLICATIONS, 2020*

**Can artificial intelligence translate the Annals of the Joseon Dynasty ?**

**Chanjun Park**, Sungjin Park, Kinam Park, Jaechoon Jo, HeuiSeok Lim

*The 10th International Conference on Convergence Technology, 2020*

**Design Neural Machine Translation Model Combining External Symbolic Knowledge in translation task**

Sugyeong Eo, **Chanjun Park**, HeuiSeok Lim

*International conference on Interdisciplinary research on Computer Science, Psychology, and Education, 2020*

**Free Talking NAO Robot for Children**

**Chanjun Park**, Jaekue Choi, Sungjin Park, Yanghee Kim, HeuiSeok Lim

*International conference on Interdisciplinary research on Computer Science, Psychology, and Education, 2019*

**Improved Machine Translation Performance Using Two Stage Subword Tokenization**

**Chanjun Park**, Sora Choi, HeuiSeok Lim

*International conference on Interdisciplinary research on Computer Science, Psychology, and Education, 2019*

**Quality before Quantity: Improved Machine Translation performance using parallel corpus filtering**

**Chanjun Park**, Seunggyu Han, HeuiSeok Lim

*International conference on Interdisciplinary research on Computer Science, Psychology, and Education, 2019*

**Improved Machine Translation Performance Using Relative Ratio of Original and Synthetic Corpus**

**Chanjun Park**, Jang Mook Kang

*International conference on Interdisciplinary research on Computer Science, Psychology, and Education, 2019*

**DOMESTIC JOURNAL**

**Policy-based performance comparison study of Real-time Simultaneous Translation**

Jungseob Lee, Hyeonseok Moon, Jaehyung **Chanjun Park** Seo, Sugyeong Eo, Seungjun Lee, Seonmin Koo, Heuiseok Lim

*Journal of the Korea Convergence Society 13.3 (2022) pp. 43–54. Korea Convergence Society, 2022*

**Error Analysis of Recent Conversational Agent-based Commercialization Education Platform**

Seungjun Lee, **Chanjun Park**, Jaehyung Seo, Heuiseok Lim

*Journal of the Korea Convergence Society 13.3 (2022) pp. 11–22. Korea Convergence Society, 2022*

**Deep Learning based Korean Dialect Machine Translation Research Considering Linguistics Features and Service**

Sangbeom Lim, **Chanjun Park**, Yeongwook Yang

*Journal of the Korea Convergence Society 13.2 (2022) pp. 21–29. Korea Convergence Society, 2022*

**Korean and Multilingual Language Models Study for Cross-Lingual Post-Training (XPT)**

SuhYune Son, **Chanjun Park**, Jungseob Lee, Midan Shim, Chanhee Lee, Heuiseok Lim

*Journal of the Korea Convergence Society 13.3 (2022) pp. 77–89. Korea Convergence Society, 2022*

## **A study on performance improvement considering the balance between corpus in Neural Machine Translation**

**Chanjun Park**, Kinam Park, Sugyeong Eo, Hyeonseok Moon, HeuiSeok Lim

*Journal of the Korea Convergence Society* 12.5 (2021) pp. 23–29. Korea Convergence Society, 2021

## **A Study on Verification of Back TranScripton(BTS)-based Data Construction**

**Chanjun Park**, Jaehyung Seo, Seolhwa Lee, Hyeonseok Moon, Sugyeong Eo, Heuiseok Lim

*Journal of the Korea Convergence Society* 12.11 (2021) pp. 109–117. Korea Convergence Society, 2021

## **Research on Subword Tokenization of Korean Neural Machine Translation and Proposal for Tokenization Method to Separate Jongsung from Syllables**

Sugyeong Eo, **Chanjun Park**, Hyeonseok Moon, HeuiSeok Lim

*Journal of the Korea Convergence Society* 12.3 (2021) pp. 1–7. Korea Convergence Society, 2021

## **Research on Recent Quality Estimation**

Sugyeong Eo, **Chanjun Park**, Hyeonseok Moon, Jaehyung Seo, HeuiSeok Lim

*Journal of the Korea Convergence Society* 12.7 (2021) pp. 37–44. Korea Convergence Society, 2021

## **Study on Zero-shot based Quality Estimation**

Sugyeong Eo, **Chanjun Park**, Jaehyung Seo, Hyeonseok Moon, Heuiseok Lim

*Journal of the Korea Convergence Society* 12.11 (2021) pp. 35–43. Korea Convergence Society, 2021

## **Classification and analysis of error types for deep learning-based Korean spelling correction**

Seonmin Koo, **Chanjun Park**, Aram So, Heuiseok Lim

*Journal of the Korea Convergence Society* 12.12 (2021) pp. 65–74. Korea Convergence Society, 2021

## **Empirical study on BlenderBot 2.0's errors analysis in terms of model, data and dialogue**

Jungseob Lee, Suh-yune Son, Midan Shim, Yujin Kim, **Chanjun Park**, Aram So, Jeongbae Park, Heuiseok Lim

*Journal of the Korea Convergence Society* 12.12 (2021) pp. 93–106. Korea Convergence Society, 2021

## **Filter-mBART Based Neural Machine Translation Using Parallel Corpus Filtering**

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*The 31st Annual Conference on Human Cognitive Language Technology, 2019*

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*Korea Software Congress 2018, 2018*

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*Korea Computer Congress 2018, 2018*

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Heuseok Lim, **Korea University NLPAL Lab**

Human Science, <https://www.aladin.co.kr/shop/wproduct.asp?partner=rss&ISBN=K412637214>, 2020

## Operate Naver's natural language processing blog

BLOGGER

- URL: <https://blog.naver.com/bcj1210>
- Linguistics for natural language processing
- Natural Language Processing (NLP)
- Machine Translation for Everyone
- Business, strategy, and planning for everyone
- Natural language processing with NLTK
- Software engineering
- Today's CCM

South Korea

2016.Dec-Present

## OpenNMT Forum Members

MEMBERS

- Active as OpenNMT Forum Members
- Develop and share OpenNMT Pytorch, Tensorflow, Library Tutorial

South Korea

2019.July-2019.July

## ETRI's machine translation quality evaluator

ESTIMATOR

- Quality evaluation of machine translation hosted by ETRI

South Korea

2019.October-2019.December

## Completion of basic curriculum for natural language processing and language intelligence

STUDENT

- Korea University Human-Inspired AI & Computing Research Center

South Korea

2019.July-2019.July

## Completed the natural language processing tutorial (2016-2019)

STUDENT

- Special Interest Group of Human and Cognitive Language Technology

South Korea

2016 - 2019

## Reporter, Korea Electronics and Telecommunications Research Institute (ETRI)

REPORTER

- Served as 3rd and 4th reporters at the Korea Electronics and Telecommunications Research Institute

South Korea

2016.Feb-2018.Feb

## Flitto Supporters

SUPPORTERS

- The first plito supporters

South Korea

2017.Dec-2017.Dec

## Journalist of the Ministry of Science and ICT

REPORTER

- 8 articles published
- Visit Exobrain Quiz Show
- URL: <https://blog.naver.com/bcj1210/221147196551>

South Korea

2016.Feb-2017.Feb

## Planning a video lecture for Natural Language Processing Basic at BUFS

PLANNER

- URL: <https://bit.ly/2NmFJV1>

South Korea

2016.July-2016.July

## BIT Computer Advanced Course Completion

STUDENT

- Bet Advanced Course Completion and Bet President Award
- Bit project level 2 license
- Development of intelligent English learning APP

South Korea

2016.January-2016.August

## BIT Computer Short Course Completion

STUDENT

- Short-term course completion (C, JAVA, Data Structure)

South Korea

2015.June-2015.August