Sang Keun Choe

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Education

Carnegie Mellon University, Pittsburgh, PA, United States — 2020 -
Ph.D. in Computer Science (Language Technologies)
Advisor: Eric Xing

Carnegie Mellon University, Pittsburgh, PA, United States — 2018 - 2020
M.S. in Computer Science (Language Technologies) — CGPA: 4.08/4.33
Advisor: Jaime Carbonell

Seoul National University, Seoul, South Korea — 2011 - 2018
B.S. in Electrical Engineering & Mathematics, *Summa Cum Laude* — CGPA: 4.07/4.30

Publications

On Orthogonal Jacobian Regularization in Deep Neural Networks
Sang Keun Choe*, Hosan Jeong*, and Jaime Carbonell
In Workshop on Science meets Engineering of Deep Learning at NeurIPS, 2019

On Leveraging Visual Modality for Neural Machine Translation
Vikas Raunak*, Sang Keun Choe*, Yi Xu*, Quanyang Lu*, and Florian Metze
In INLG, 2019 (Short ver.: *Workshop on New Tasks for Vision and Language at ICML*, 2019)

On Leveraging Visual Modality for ASR Error Correction
Sang Keun Choe*, Vikas Raunak*, Quanyang Lu*, Yi Xu*, and Florian Metze
In Workshop on New Tasks for Vision and Language at ICML, 2019

Audio Cover Song Identification using Convolutional Neural Network
Juheon Lee, Sungkyun Chang, Sang Keun Choe, and Kyogu Lee
In ICASSP, 2018 (Short ver.: *Workshop on ML4Audio at NIPS*, 2017)

Research & Work Experience

Carnegie Mellon University, Research Assistant — Sep 2018 - Present
- Studied implications of orthogonal Jacobian (dynamical isometry) in optimization of neural networks and its theoretical connection to auto-encoding loss
- Developed efficacious ways to leverage visual modality in neural networks for improving automatic speech recognition and machine translation

HodooAI, Research Engineer — Apr 2018 - Jul 2018
- Developed neural networks identifying fake images using GANs and Bayesian learning
- Implemented image style transfer algorithms and applied it to the make-up transfer application

Seoul National University, Research Assistant — Jun 2017 - Dec 2017
Music and Audio Research Group — Advisor: Kyogu Lee
- Developed a cover-song identification algorithm using convolutional neural networks
- Developed a content-based image retrieval model by learning multi-level representations of images

Projects

Airplane Part Price Prediction, Boeing — 2019 - 2020
- Participated in developing random forest based regression models that predict optimal prices of various airplane parts (earned profits of >$1B for Boeing)

Honors & Awards

Kwanjeong Scholarship for Graduate Study ($30,000/yr) — 2018 - 2020
Best Undergraduate Engineering Student Award, Seoul National University — 2018
Presidential Scholarship for Science and Engineering Study, Korea — 2011 - 2017
Gold Award (Top 7), Korea Collegiate Mathematical Competition — 2011
Silver Award, Korea Mathematical Olympiad — 2010

Coursework

Introduction to Deep Learning, Deep Reinforcement Learning, Graduate AI, Neural Networks for NLP, Statistical Techniques for Robotics, Large-scale Multimedia Analysis, Machine Translation and Sequence-to-sequence Models, Algorithms for NLP, Information Theory, Convex Optimization

Activities

2019 NeurIPS External Reviewer

Skills

Python, Java, MATLAB, C/C++