Cesc Chunseong Park

Research Interests

My research is focusing on Deep Learning and its applications in Computer Vision, Natural Language Processing and their intersection.

Keywords : Image Understanding, Story Generation for Photo Stream and Machine Translation.

Education

Mar 15-Feb 17 **Seoul National University (SNU)**, *Seoul, Korea*.
- Master of Science in Computer Science and Engineering, GPA: 4.05/4.3 (Major: 4.06/4.3)
- Advisor: Gunhee Kim (Vision and Learning Laboratory)

Mar 12-Feb 15 **Sung Kyun Kwan University**, *Korea*.
- Bachelor of Science in Software, GPA: 4.35/4.5 (Major: 4.4/4.5)
- The early admission from science high-school and early graduation as a class valedictorian.

Publications

2018 **Cesc Chunseong Park**, *Byeongchang Kim*, Gunhee Kim, *Towards Personalized Image Captioning via Multimodal Memory Networks*, **IEEE TPAMI 2018** [Code Link].
- This paper extends the preliminary work of my CVPR 2017 paper. We make model updates after thorough experimental comparisons, including that we replace the single-layer CNN of with multi-layer ones for more expressive memory representation. Also we apply our model to the benchmark dataset YFCC100M to show better generalization performance of our approach.

2017 **Cesc Chunseong Park**, *Byeongchang Kim*, Gunhee Kim, *Attend to You: Personalized Image Captioning with Context Sequence Memory Networks*, **CVPR 2017** **(Spotlight)** [PDF Link] [Code Link].
- We address personalization issues of image captioning, which have not been discussed yet in previous research. For a query image, we aim to generate a descriptive sentence, accounting for prior knowledge such as the user's active vocabularies in previous documents. As applications of personalized image captioning, we tackle two post automation tasks: hashtag prediction and post generation, on our newly collected Instagram dataset, consisting of 1.1M posts from 6.3K users. We propose a novel captioning model named Context Sequence Memory Network (CSMN).

2017 **Cesc Chunseong Park**, *Youngjin Kim*, Gunhee Kim, *Retrieval of a Sequence of Sentences for an Image Stream via Coherence Recurrent Convolutional Networks*, **IEEE TPAMI 2017** [Code Link].
- Since general users often take a series of pictures on their experiences, much online visual information exists in the form of image streams, for which it would better take into consideration of the whole image stream to produce natural language descriptions. To this end, we propose a multimodal neural architecture called coherence recurrent convolutional network (CRCN), which consists of convolutional neural networks, bidirectional long short-term memory (LSTM) networks, and an entity-based local coherence model.

2015   **Cesc Chunseong Park**, Gunhee Kim, *Expressing an Image Stream with a Sequence of Natural Sentences*, **NIPS 2015**. *[PDF Link] [Code Link]*.
   o We propose an approach for generating a sequence of natural sentences for an image stream. While almost all previous studies have dealt with the relation between a single image and a single natural sentence, our work extends both input and output dimension to a sequence of images and a sequence of sentences.

Professional Experience

Feb 17-   **Lunit Inc.**, Korea.
   o Research Scientist, R&D Center.

Nov 14-Jan 15   **SAMSUNG**, Korea.
   o Internship in Software Center, AI Department.

Teaching Experience

Sep 15-Dec 15   Teaching Assistant of Probabilistic Graphical Models (4190.773)
Mar 15-Jun 15   Teaching Assistant of Image Processing (4190.429)

Awards

2016	NVIDIA Deep Learning Contest	*3rd Award*
2016	NAVER Master Fellowship	*3000$*
2015-2016	Scholarships	*Granted by Seoul National University and Alumini Association*
2014	Software Maestro (Software)	*Certificate from Minister*
2013	Best of the Best (Security)	*Certificate from Minister*
Mar 12-Dec 14	Dean's List Awards	*Granted by Sung Kyun Kwan University*
Mar 12-Dec 14	Full tuition Scholarships	*Granted by Sung Kyun Kwan University*

Skills

Programming Languages: Python, JAVA, C/C++, Javascript(Node.js), HTML
Framework: Tensorflow, Theano(Keras)
Models: Memory Networks, RNN, LSTM, BRNN

Development Experience

Jun 14-Nov 14   **Research Leader & Developer**, *SW R&D : Open-source Development Platform which includes Knowledge Graph-Based Search and Recommendation System*.
   o Many open-source projects have connections between each other by referencing or containing it. We implement open-source development platform based on knowledge graph to give the connection information about open-source projects.

Sep 13-Jun 14   **Research Leader & Developer**, *Campus CEO : Supporting Open-source Platform*.
   o Many open-source projects have difficulty to grow up. We want to make the supporting platform for open-source developers.

Sep 13-Feb 14   **Researcher**, *Undergraduate R&D : DNS Cache Poisoning by using DDOS*.
   o Security R&D project for DNS cache poisoning by using DDOS.