

Youngjae Yu

SOFTWARE ENGINEER · GRADUATE RESEARCHER

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Research Interest

- Computer Vision, Vision and Language, Biological Vision, Story Understanding, Visual Storytelling, Transfer Learning, Mixed Reality

Education

Seoul National University (SNU)

Seoul, Korea

INTEGRATED MS / PH.D PROGRAM IN COMPUTER SCIENCE AND ENGINEERING

Mar. 2015 – Current

- Vision and Learning Lab (Advisor: Gunhee Kim)
- Completed master's degree

Seoul National University (SNU)

Seoul, Korea

B.S. IN COMPUTER SCIENCE AND ENGINEERING

Mar. 2009 - 2015

- 2010 – 2012, Compulsory Military Service. Served as a sergeant in R.O.K Marine Corp.

Publication

INTERNATIONAL CONFERENCE

- | | | |
|------|---|--------------------------|
| 2018 | Youngjae Yu , Jongseok Kim and Gunhee Kim, <i>A Joint Sequence Fusion Model for Video Question Answering and Retrieval</i> | ECCV 2018 |
| | Sangho Lee, Jinyoung Sung, Youngjae Yu and Gunhee Kim, <i>A Memory Network Approach for Story-based Temporal Summarization of 360° Videos</i> | CVPR 2018 |
| | Youngjae Yu , Sangho Lee, Joonil Na, Jaeyun Kang, Gunhee Kim, <i>A Deep Ranking Model for Spatio-Temporal Highlight Detection from a 360° Video</i> | AAAI 2018 |
| 2017 | Youngjae Yu , Jongwook Choi, Yeonhwa Kim, Kyoung Yu, Sang-hun Lee, Gunhee Kim, <i>Supervising Neural Attention Models for Video Captioning by Human Gaze Data</i> | CVPR 2017 |
| | Youngjae Yu , Hyungjin Ko, Jongwook Choi, Gunhee Kim, <i>End-to-end Concept Word Detection for Video Captioning, Retrieval, and Question Answering</i> | CVPR 2017
(Spotlight) |
| | Yunseok Jang, Yale Song, Youngjae Yu , Youngjin Kim, Gunhee Kim, <i>TGIF-QA: Toward Spatio-Temporal Reasoning in Visual Question Answering</i> | CVPR 2017
(Spotlight) |
| 2016 | Inuk Jung, Kyuri Jo, Hyejin Kang, Hongryul Ahn, Youngjae Yu , Sun Kim, <i>TimesVector: A Vectorized Clustering Approach to the Analysis of Time Series Transcriptome Data from Multiple Phenotypes</i> | GIW 2016 |

JOURNAL

- | | | |
|------|---|---------------------|
| 2017 | Inuk Jung, Kyuri Jo, Hyejin Kang, Hongryul Ahn, Youngjae Yu , Sun Kim, <i>TimesVector: A Vectorized Clustering Approach to the Analysis of Time Series Transcriptome Data from Multiple Phenotypes</i> | Bioinformatics 2017 |
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WORKSHOP

- | | | |
|------|---|---|
| 2016 | Youngjae Yu , Hyungjin Ko, Jongwook Choi, Gunhee Kim, <i>Video Captioning and Retrieval Models with Semantic Attention</i> | ECCV 2016 LSMDC &
VisStory |
| 2017 | Seil Na, Youngjae Yu , Sangho Lee, Jisung Kim, Gunhee Kim, <i>Encoding Video and Label Priors for Multi-label Video Classification on YouTube-8M dataset</i> | CVPR 2017 &
YouTube-8M
Large-Scale Video
Understanding |

DOMESTIC

2015 **Youngjae Yu, Sun Kim, Correlation Based Feature Selection and Pattern Clustering Method for Time Series Gene Expression Data of Drought Stressed Rice**

B.S. Thesis

Experience

Academic Activities

- Reviewer of international conferences (CVPR, ICMI)

SNU, Vision and Learning Lab

Seoul, Korea

GRADUATE RESEARCHER

Feb 2015 – Current

- Advisor: Gunhee Kim
- **Multimodal info Retrieval.** Developed methods for retrieving a corresponding movie-review blog(text and image,video contents) and aligning on movie using CRF (Conditional Random Field) algorithm. Also developed video retrieval from natural language sentence query. *Won LSMDC (2016,2017) challenge*
- **Visual Summarization.** Implemented Multi-channel ego-centric video summarization for industrial project. I also have experience of leading projects about deep ranking model for 360 degree video summarization.
- **Vision & Language, Visual QA.** Won three competition in LSMDC 2016,2017 challenge (Multichoice QA, Movie Retrieval and Fill in the Blank). For video QA, I have experience of leading the industry project on movieQA. Additionally, our team collected TGIF-QA dataset and develop state of the art method for video QA, which is presented in CVPR 2017 (spotlight). I have interests in Multi-modal intelligence, fusing vision, audio and language capabilities.
- **Video saliency prediction** Developed recurrent saliency/human gaze prediction for video. Our work is presented in CVPR 2017. Currently I am developing a learning model that models the biological response of the person who viewed the video.

SNU, Bioinformatics Lab

Seoul, Korea

UNDERGRADUATE RESEARCHER

June 2014 – Dec 2014

- Advisor: Sun Kim
- Based on the opinion of the advisor, I developed the final term project in class as a research project. To classify RNA expression for drought resistance of rice from other, i tried unsupervised feature selection and clustering on water-stress controlled RNA expression data.
- The result of research project is presented in GIW 2016 and Bioinformatics journal.

SNU, Electronic Low Power Lab

Seoul, Korea

UNDERGRADUATE RESEARCHER

May 2012 – Nov 2012

- Advisor: Naehyuck Chang
- Researched low power optimized architecture design for embedded system.
- FPGA programming and simulation experience.
- Measuring data for low power electronic vehicle.

Honors & Awards

INTERNATIONAL

2017	1st prize, Movie Annotation and Retrieval track - Large Scale Movie Description and Understanding Challenge (LSMDC 2017)	<i>ICCV 2017 LSMDC & MovieQA</i>
2017	1st prize, Movie Fill-in-the-Blank track - Large Scale Movie Description and Understanding Challenge (LSMDC 2017)	<i>ICCV 2017 LSMDC & MovieQA</i>
2016	1st prize, Movie Annotation and Retrieval track - Large Scale Movie Description and Understanding Challenge (LSMDC 2016)	<i>ECCV 2016 LSMDC & VisStory</i>
2016	1st prize, Movie Fill-in-the-Blank track - Large Scale Movie Description and Understanding Challenge (LSMDC 2016)	<i>ECCV 2016 LSMDC & VisStory</i>

Teaching

2018	Teaching Assistant, Samsung DS ² Artificial Intelligence course : NLP and Vision	<i>SNU</i>
2017	Workshop Instructor, Resource development : Theory and Application of Deep Learning	<i>SNU</i>
2017	Lecture Instructor, Seoul Big Data Academy : Tensorflow basic, CNN, RNN	<i>SNU</i>
2017	Lecture Instructor, SKT Academy : Tensorflow basic, Introduction to CNN,RNN	<i>SNU</i>
2017	Teaching Assistant, Big Data Academy : Introduction to RNN	<i>SNU</i>
2016	Teaching Assistant, 4190.773 : Probabilistic Graphical Model	<i>SNU</i>
2015	Teaching Assistant, 4190.307 : Operating System	<i>SNU</i>
2015	Teaching Assistant, M1522.001000 : Computer Vision	<i>SNU</i>