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

JOURNAL

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

WORKSHOP

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

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*

GRAUDATE 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)   *ICCV 2017 LSMDC & MovieQA*

2017   **1st prize**，Movie Fill-in-the-Blank track - Large Scale Movie Description and Understanding Challenge (LSMDC 2017)   *ICCV 2017 LSMDC & MovieQA*

2016   **1st prize**，Movie Annotation and Retrieval track - Large Scale Movie Description and Understanding Challenge (LSMDC 2016)   *ECCV 2016 LSMDC & VisStory*

2016   **1st prize**，Movie Fill-in-the-Blank track - Large Scale Movie Description and Understanding Challenge (LSMDC 2016)   *ECCV 2016 LSMDC & VisStory*

Teaching

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