

# Youngjae Yu

SOFTWARE ENGINEER · GRADUATE RESEARCHER

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## Research Interest

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

## Education

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### Seoul National University (SNU)

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

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

Seoul, Korea

Mar. 2015 – Current

### Seoul National University (SNU)

B.S. IN COMPUTER SCIENCE AND ENGINEERING

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

Seoul, Korea

Mar. 2009 - 2015

## Publication

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### INTERNATIONAL CONFERENCE

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|------|---|-----------------------|
| 2018 | <b>Youngjae Yu</b> , 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 | <b>Youngjae Yu</b> , 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             |
|      | <b>Youngjae Yu</b> , 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, <b>Youngjae Yu</b> , 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, <b>Youngjae Yu</b> , Sun Kim, <i>TimesVector: A Vectorized Clustering Approach to the Analysis of Time Series Transcriptome Data from Multiple Phenotypes</i> | GIW 2016              |

### JOURNAL

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|------|---|---------------------|
| 2017 | Inuk Jung, Kyuri Jo, Hyejin Kang, Hongryul Ahn, <b>Youngjae Yu</b> , 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

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|------|---|--|
| 2016 | <b>Youngjae Yu</b> , Hyungjin Ko, Jongwook Choi, Gunhee Kim, <i>Video Captioning and Retrieval Models with Semantic Attention</i>                                   | ECCV 2016 LSMDC & VisStory                             |
| 2017 | Seil Na, <b>Youngjae Yu</b> , 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 | <b>Youngjae Yu</b> , Sun Kim, <i>Correlation Based Feature Selection and Pattern Clustering Method for Time Series Gene Expression Data of Drought Stressed Rice</i> | B.S. Thesis |
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## Experience

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### 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 leading project for 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 the experience of leading the industry project on movieQA. Additionally, our team collected TGIF-QA dataset and develop state of the art method, which is presented in CVPR 2017 (spotlight). I actively try to use NLP to enhance machine intelligence of Vision.
- **Video saliency prediction** Developed recurrent saliency/human gaze prediction for video. Our work is presented in CVPR 2017.

### 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

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### INTERNATIONAL

2017	Fellowship, NAVER PhD Fellowship award	NAVER, Seoul
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

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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