



# JOONGWON DANIEL KIM

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## EDUCATION

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### University of Pennsylvania

Aug 2018 - May 2022 (expected)

Bachelor of Applied Science in Computer Science

Minor in Mathematics

- GPA: 3.96 / 4.0

- GRE: 168 / 170 V, 170 / 170 Q, 5.5 / 6 W

- **Featured Coursework:** Computational Linguistics, Machine Learning, Deep Learning, Graph Neural Networks, Computer Vision, Crowdsourcing, Intro to Syntax, Databases and Info Systems, Big Data, Linear Algebra, Algorithms

## RESEARCH EXPERIENCE

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### Conversational QA with Synthesized Dialogues

Jul 2021 - Present

Advisors: Mark Yatskar, Chris Callison-Burch

- Formulated a method for collecting a large, synthetic dataset of conversational QA by using People-Also-Ask API.
- Overview of related experiments to appear in senior capstone thesis

### Language Grounded Multimodal Schema for Video Retrieval

May 2021 - Nov 2021

Advisors: Mark Yatskar, Chris Callison-Burch

- Induced schema representations of goal-oriented (how-to) tasks from multimodal sources. Proposed methods to modify existing schemas to address unseen tasks. Improved performance on instructional video retrievals.
- Work under review [1]

### Learning to Split and Rephrase Sentences with Bitexts

May 2020 - May 2021

Advisors: Wei Xu, Chris Callison-Burch

- Curated a multilingual Split and Rephrase corpus using machine translation over parallel corpora. Developed a sentence splitter with controllable generation and performed evaluations. Collaborated with Georgia Tech.
- Work published in EMNLP 2021 [2]

### Automated Seizure Detection with Deep Learning

Jun 2019 - Apr 2020

Advisors: Brian Litt

- Developed a seizure detection codebase which used neural networks with associated full-stack web application.
- Work published in Critical Care Explorations

## PUBLICATIONS / PRE-PRINTS

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### [1] Induce, Edit, Retrieve: Language Grounded Multimodal Schema for Instructional Video Retrieval

Yue Yang, Joongwon Kim, Artemis Panagopoulou, Mark Yatskar, Chris Callison-Burch

- Under review in CVPR 2022
- Links: [\[paper\]](#)

### [2] BiSECT: Learning to Split and Rephrase Sentences with Bitexts

Joongwon Kim\*, Mounica Maddela\*, Reno Kriz, Wei Xu, Chris Callison-Burch

- Proceedings of EMNLP 2021 (long paper)
- Links: [\[paper\]](#) [\[video\]](#) [\[poster\]](#) [\[slides\]](#)

Another paper not related to NLP can be found in my [Google Scholar page](#).

## SENIOR THESIS

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### **Towards Practical Conversational Open-Domain Question Answering**

*Senior Capstone Thesis for Computer Science at the University of Pennsylvania (CIS 498)*

- Provided literature review of conversational QA and open-domain QA
- Generated synthetic QA dialogues from existing datasets (e.g. Natural Questions) using People-Also-Ask
- Performed experiments with fine-tuning QA models on the custom dataset

## TEACHING

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### **Computational Linguistics (CIS 530)**

*Jan 2021 - May 2021*

*Teaching Assistant*

- Helped to teach a graduate-level NLP class of 150 students by managing office hours and Piazza forum.
- Worked under Professor Mark Yatskar

### **Data Structures & Algorithms (CIS 121)**

*Jan 2020 - Dec 2020*

*Teaching Assistant*

- Led weekly office hours and recitations of 20-30 students on fundamental algorithms/data structure concepts.
- Worked under Professors Rajiv Gandhi and Kostas Daniilidis

## AWARDS

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**Academic:** Dean's List 2018-19 (not awarded subsequently due to COVID-19)

**Fellowships:** NSF GRFP 2022 (applied), Penn Undergraduate Research Mentoring (PURM) fellowship 2019

## SKILLS

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**Languages:** English, Korean (native fluency)

**Programming:** Python, Java, C, C++, SQL, Javascript, HTML, CSS, MATLAB

**Research:** Mechanical Turk, Latex, Command Line, Git

## REFERENCES

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Professor Chris Callison-Burch

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*University of Pennsylvania*

Professor Mark Yatskar

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*University of Pennsylvania*

Professor Wei Xu

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*Georgia Institute of Technology*