

Dian Yu

PERSONAL INFORMATION Website: diandyu.github.io
E-mail: dianyu@ucdavis.edu

RESEARCH Google Brain

Research Intern

June 2021 - Sept. 2021

Advised by Mingqiu Wang and Yuan Cao. Researched on schema induction for task-oriented dialog systems.

Google AI

Research Intern

June 2020 - Sept. 2020

Advised by Luheng He and Yuan Zhang. Researched on few-shot metric-based representation learning in dialog systems. Resulted in 2 papers (1 NAACL, 1 ACL).

2019 Amazon Alexa Prize Challenge

Research Lead

June. 2019 - June. 2020

Improved the NLU pipeline including model prediction accuracy for better understanding ability. Researched and implemented knowledge-grounded neural generation model. Resulted in the highest average user rating of 10 final competition teams.

Uber AI

Research Scientist Intern

June 2019 - Sept. 2019

Advised by Chandra Khatri, Alexandros Papangelis, and Gokhan Tur. Researched on semantic understanding in embodied environments (Embodied Navigation) and exploration in text-based games. Resulted in 2 papers (1 NeurIPS workshop, 1 IJCAI).

2018 Amazon Alexa Prize Challenge

Vice Team Lead

Feb. 2018 - Nov. 2018

Led the UC Davis team of 12 people advised by Prof. Zhou Yu. Designed and implemented the entire NLU pipeline including segmentation, dialog act, topic modeling, parsing, NER, coreference, and ASR correction. Developed retrieval methods for NLG. Improved average user rating by 19%. Resulted in getting **1st** place of 195 applications.

Computer Science Department, University of California Davis

Graduate Research Assistant

Sept. 2017 - present

Advised by Prof. Kenji Sagae and Prof. Zhou Yu. Research on language understanding and language representation in cross-lingual transfer learning and dialog systems.

Computer Science Department, New York University (NYU)

Research Assistant

Aug. 2015 - Aug. 2017

Advised by Prof. Keith W. Ross. Researched on reinforcement learning with a focus on NLP. Assisted in revising the book *Computer Networking: A Top-Down Approach*, by Kurose and Ross.

Design Technology Lab, NYU Abu Dhabi

Research Assistant

Aug. 2016 - Dec. 2016

Advised by Prof. Azza Abouzied. Developed algorithms inspired by R-tree and graph theory to extract textual data.

NYU WIRELESS

Researcher

May 2016 - Aug. 2016

Advised by Prof. Dennis Shasha and Theodore S. Rappaport. Conducted 5G millimeter-wave (73 GHz) propagation measurements to test path loss models and analyzed experiment data.

PUBLICATIONS **D Yu**, K Sagae (2021). Automatically Exposing Problems with Neural Dialog Models. EMNLP 2021.

D Yu, Z Yu and K Sagae (2021). Attribute Alignment: Controlled Text Generation from Pre-trained Language Models with Attribute Representation. EMNLP 2021 Findings.

D Yu, T He and K Sagae (2021). Language Embeddings for Typology and Cross-lingual Transfer Learning. ACL 2021 (Oral).

X Du, L He, Q Li, **D Yu**, P Pasupat and Y Zhang (2021). QA-Driven Zero-shot Slot Filling with Weak Supervision Pretraining. ACL 2021.

D Yu, L He, Y Zhang, P Pasupat, X Du and Q Li (2021). Retrieval-based Method for Few-shot Intent Classification and Slot Filling. NAACL 2021 (Oral).

D Yu and Zhou Yu (2020). MIDAS: A Dialog Act Annotation Scheme for Open Domain Human Machine Spoken Conversations. EACL 2021 (Oral).

R Aranovich, M Wu, **D Yu**, K Katsy, B Bosari, M Bishop, V Filkov and K Sagae (2021). Beyond NVD: Cybersecurity meets the Semantic Web. ACM NSPW 2021.

K Liang, A Chau, Y Li, Z Lu, **D Yu**, M Zhou, I Jain, S Davidson, J Arnold, M Nguyen and Z Yu (2020). Gunrock 2.0: A User Adaptive Social Conversational System. In 3rd Proceedings of Alexa Prize.

D Yu, C Khatri, A Papangelis, M Namazifar, A Madotto, H Zheng, J Huizinga, A Ecoffet, P Molino, J Clune, Z Yu, K Sagae and G Tur (2019). Common sense and Semantic-Guided Navigation through Language in Embodied Environment. NeurIPS 2019 Workshop.

D Yu, M Cohn, Y Yang, C Chen, W Wen, J Zhang, M Zhou, K Jesse, A Chau, A Bhowmick, S Iyer, G Sreenivasulu, S Davidson, A Bhandare, and Z Yu (2019). Gunrock: A Social Bot for Complex and Engaging Long Conversations. EMNLP 2019 Demo.

S Davidson, **D Yu**, Zhou Yu (2019). Dependency Parsing for Spoken Dialog Systems. EMNLP 2019.

X Zhang, C Li, **D Yu**, S Davidson and Z Yu (2019). Filling Conversation Ellipsis for Better Social Dialog Understanding. AAAI 2020.

D Yu and K Sagae (2019). DAG Semantic Parsing with Attention-based Decoder. NAACL 2019 workshop.

D Yu, C Khatri, A Papangelis, M Namazifar, A Madotto, H Zheng, J Huizinga, A Ecoffet, J Clune and G Tur (2019). Common sense and Semantically Grounded Understanding for Effective Room Navigation in Embodied Environment. Under Submission.

A Madotto, M Namazifar, J Huizinga, P Molino, A Ecoffet, H Zheng, A Papangelis, **D Yu**, C Khatri

and G Tur (2019). Exploration Based Language Learning for Text-Based Games. IJCAI 2020.

C Chen, **D Yu**, W Wen, Y Yang, J Zhang, M Zhou, K Jesse, A Chau, A Bhowmick, S Iyer, G Sreenivasulu, R Cheng, A Bhandare, and Z Yu (2018). Gunrock: Building A Human-like Social Bot by Leveraging Large Scale Real User Data. In *2nd Proceedings of Alexa Prize*.

G MacCartney, S Sun, T Rappaport, Y Xing, H Yan, J Koka, R Wang, and **D Yu** (2016), Millimeter wave wireless communications: New results for rural connectivity, in *All Things Cellular' 16: Workshop on All Things Cellular Proceedings, in conjunction with ACM MobiCom*.

SERVICE

Reviewer: ACL 20-21' (outstanding reviewer), ACL Rowling Review (ARR), EMNLP 20-21', AAAI 20', NeurIPS 20', COLING 20', NAACL 19-21', SIGIR 19'

TEACHING

Teaching Assistant for ECS 170 Artificial Intelligence, University of California, Davis, Spring 2018
Teaching Assistant for ECS 122B Algorithms Design, University of California, Davis, Winter 2018
Teaching Assistant for ECS 122A Algorithms Design, University of California, Davis, Fall 2017
Teaching Assistant for CSCI-UA 310 Basic Algorithms, New York University, Spring 2016

EDUCATION

University of California, Davis

Sept. 2017 - present

Ph.D. student in Computer Science

Advisor: Prof. Kenji Sagae and Prof. Zhou Yu

New York University

May 2017

B.S. Computer Science (GPA: 3.79/4.00)

B.S. Business and Finance (GPA: 3.76/4.00)

Minor in Mathematics

Dean's Honors List

SELECTED AWARDS

- Winner of the 2018 Alexa Prize for conversational artificial intelligence 2018
- NYU Founders' Day Award 2017
- NYU Shanghai Recognition Award 2015, 2016
- Top ten in China League Hacking (the largest Collegiate Hackathon in China) 2014

LEADERSHIP EXPERIENCE

President and Co-founder of LaunchPad startup club