Hyundong Justin Cho *Ph.D. student in Computer Science*

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EDUCATION

University of Southern California (USC) **2020.9 - Present**
Ph.D. in Computer Science, Viterbi School of Engineering *Los Angeles, CA, USA*
Advisor: Prof. Jonathan May
Machine Learning, Natural Language Processing

Hong Kong Unversity of Science and Technology (HKUST) **2013.9 - 2019.6**
B.Eng. in Computer Science, School of Engineering *Hong Kong, HK*
Graduated with First Class Honors

RESEARCH/WORK EXPERIENCE

Facebook AI Applied Research **2021.8 - Present**
Research Intern, Manager: Dr. Ahmad Beirami *Menlo Park, CA, USA*

- **Analyzing gains from pre-finetuning for task-oriented dialogue models:** Dissected the performance gains on joint goal accuracy of task-oriented dialogue systems from various pre-finetuning tasks with a comprehensive set of metrics such as named entity invariance and paraphrase invariance to devise a recipe for efficiently pre-finetuning task-oriented dialogue systems.

USC Information Sciences Institute (ISI) Natural Language Group (NLG) **2020.8 - 2021.8**
Graduate Research Assistant, PI: Prof. Jonathan May *Los Angeles, CA, USA*

- **Character/personality modeling:** Annotated dyadic conversations from the Enron Email Corpus and soap opera transcripts for situational, communicative, and external power dimensions to model conversation traits arising from social power differentials.

Stitch Fix Inc. **2020.6 - 2020.8**
Data Science Intern, Manager: Dr. Anna Schneider *San Fransisco, CA, USA*

- **Comments Summarization:** Surfaced representative client comments to facilitate purchasing decisions for merchandising partners with a pipeline comprised of a SentenceBERT model, UMAP, and HDBSCAN.

USC ISI NLG **2019.9 - 2020.6**
Programmer Analyst *Los Angeles, CA, USA*

- **Active Social Engineering Defense (ASED) program:** Combined a finite state transducer and a fine-tuned GPT-2-based neural conversational model for the dialogue state manager of an automatic phishing email reply system. The project is sponsored by the Defense Advanced Research Projects Agency (DARPA).

Summer Research Intern, PI: Prof. Jonathan May **2019.6 - 2019.9**

- **Structure-to-text:** Trained decoder-only Transformers for generating text from structured data, experimenting with play-by-play records of Major League Baseball matches on retrosheet.org to automatically create recap articles.

Undergraduate Research Assistant, PI: Prof. Jonathan May **2018.9 - 2019.2**

- **Improvised dialogues:** Constructed the *Spontaneanation Pairs of Learnable ImprovisatioN* corpus, a collection of *"Yes, and"* type dialogue acts for engaging dialogue generation from improv podcasts. Augmented the corpus with validated data from the Cornell Movie Corpus using a fine-tuned BERT classifier. Project page

Imago.ai **2018.6 - 2018.9**
Artificial Intelligence Researcher *Hong Kong, HK*

- **Question Answering:** Trained a BiDAF question answering model augmented with self-attention mechanism with MS-MARCO and SQuAD V2 datasets and evaluated performance with BLEU and ROUGE metrics.
- **Production deployment:** Deployed the trained model with a Flask app on the company's production server. Demo

PUBLICATIONS

1. Grounding Conversations with Improvised Dialogues
   in Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics
   Hyundong Cho, Jonathan May

2. Agenda Pushing in Email to Thwart Phishing
   in Proceedings of the 1st Workshop on Document-grounded Dialogue and Conversational Question Answering
   Hyundong Cho, Genevieve Bartlett, Marjorie Freedman

PROJECTS

Alexa Prize Socialbot Grand Challenge 4 **2020.11 - Present**

- Team leader of Viola, the first team from USC to compete in the competition. Faculty advisor: Professor Jonathan May
- Developed and deployed a scalable and versatile socialbot through AWS with a combination of finite state machines and end-to-end chit-chat neural models and QA components.

Inflo: News Data Processing for Fake News Detection **2018.9 - 2019.4**

- Final Year Project (year-long senior level team project), Supervisor: Kenneth Wai-Ting Leung
- Developed a novel platform for a versatile fake news detection service with a multi-modal fake news detection neural network using PyTorch, Flask, and JavaScript.
- Finalist for Best Final Year Project. Project link

Goal-oriented Dialogue Generation **2018.2 - 2018.6**

- NLP course final project, Instructor: Pascale Fung
- Applied the Transformer model for end-to-end goal-oriented dialogue generation of the Dialogue State Tracking Challenge (DSTC) 6 series. Project link

AWARDS

Viterbi School of Engineering/Graduate School Fellowship for Incoming Students	**2020**
Academic Excellence Recruitment Scholarship (Full Tuition), HKUST	**2013.9 - 2019.6**
Reaching Out Award, HKSAR Government Scholarship Fund	**2019.2**
Champion of CodeIT Suisse Coding Challenge, Credit Suisse APAC Region	**2017.9**
Dean's List, School of Engineering, HKUST	**2013.12, 2015.6, 2017.12, 2018.6, 2019.6**

SKILLS/LANGUAGE

Computer languages: Python, C++, Java, Javascript, SQL, PHP
Frameworks/Platforms: PyTorch, Keras, Docker, Flask, nginx, AWS, Amazon Mechanical Turk, jQuery, NLTK, spaCy, MongoDB, PySpark
Languages: English (native), Korean (native)