Zijiao Yang

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EDUCATION

Oregon State University   **Corvallis, USA**
Ph.D. in Computer Science.   *Sep. 2020 - Present*

University of Colorado Boulder   **Boulder, USA**
Master of Science in Computer science. GPA: 3.91/4.0   *Aug. 2018 - Aug. 2020*

Ritsumeikan University   **Kusatsu, Japan**
Bachelor of Engineering in Information Science and Engineering,   *Sept. 2014 - Sept. 2016*
Department of Human and Computer Intelligence GPA: 4.3/5.0

Dalian University of Technology   **Dalian, China**
Bachelor of Engineering in Software Engineering (Japanese Intensive)   *Sept. 2012 - Sept. 2016*

Related Courses: Computational Lexical Semantics, Machine Learning, Natural Language Processing, Convex Optimization, Bio-inspired Multi-Agent System, Principle of Numerical Computation, Statistical Data Analysis, Data Structure, Operating Systems and Compiler.

RESEARCH EXPERIENCE

Consistent Intent and Action Generation for Subject in a Scene, Oregon State University   **Corvallis, USA**
July. 2020 - Present

- Examing the intentions and actions of people in visual scenes.
- Trained model to generate a subject's intent and actions before and after an observed scene.
- Enforcing consistency between intent and before/after actions leveraging natural language inference techniques.

Multi-Modal Semantic Role Labeling, University of Colorado Boulder   **Boulder, USA**
Oct. 2019 - May. 2020

- Investigate "Could image information be help of semantic role labeling task?".
- Build a model that takes image embedding and caption as input, output the semantic role labels for the caption. The model composed of a Seq2Seq predictor (BiLSTM with highway connections), and an image-caption aligner (to align the image and sentence embedding of the corresponding caption together during training).
- The model achieved comparable results on the test set when compared with the language-only model (BiLSTM with highway connections).

Emergent Language in The Honeybee Site Selection Game, University of Colorado Boulder   **Boulder, USA**
Mar. 2019 - Apr. 2019

Team member

- Proposed hypotheses of bee dance as a language, investigated its properties and hypotheses of bee site selection, formulated bee game description and implementation.
- Proposed hypotheses on the mechanism of the bee "persuading others" to be scouts or vote on a site location. Designed reward function reflecting hypotheses.
- Simulate the Bee site selection game with an end-to-end differentiable model of bees and environment state dynamics over time based on an existed framework on study multi-agent systems, which possess a policy architecture that controls the actions and utterance generation. Analyzed simulated bee agent behavior and dynamics of vocabulary used by bee agents.

AWARDS

Lloyd Botway Fellowship, University of Colorado Boulder, 2020
Special Encouragement Scholarship, Ritsumeikan University (full tuition waiver 2015)

SKILLS

Technical: C, Python, Matlab, Numpy, Scikit-learn, Pytorch, Tensorflow, Keras, Ruby, Racket, Standard ml, R Language, Convex Programming.
Language: English (fluent), Mandarin (native), Japanese (fluent).