

Zheng(Jon) Cai

jon.z.cai@colorado.edu | 773.982.0526

EDUCATION

THE UNIVERSITY OF CHICAGO

M.S. IN PHYSICAL
SCIENCES(INDIVIDUAL PROGRAM)
Computer Science Track
Chicago, IL

XI'AN JIAOTONG UNIVERSITY

B.S. IN APPLIED PHYSICS
School of Science
Xi'an China

LINKS

Github: [Jonbean](#)
Linkedin: [ZhengCaiJon](#)
PersonalWeb: [joncaizheng](#)

COURSEWORK

GRADUATE

Algorithms
C Programming
Computational Physics
Machine Learning
Mathematical Methods of Physics
Natural Language Processing
Signals Systems and Random Processes

UNDERGRADUATE

Calculus, Quantum Mechanics
Classical Mechanics
Linear Algebra
Probability and Statistics
Object Oriented Programming

SKILLS

PROGRAMMING

Language:
Python • C • C++ • Java • Javascript •
Matlab • \LaTeX • MySQL

Familiar:

Pytorch • Tensorflow • Theano • OpenAI
gym • OpenNMT • Node.js • html

AWARDS

2011 XJTU Siyuan Scholarship
2011 XJTU Outstanding Research
Practitioner
2014 The University of Chicago
Scholarship

EXPERIENCE

NATIONAL TIMING CENTER | PULSAR GROUP

June 2011 – August 2012 | Xi'an, CHINA

- Data Analysis work to find Pulsar and timing through pulse signals.
- Building general relativity correction model for pulsar through simulation.

NATIONAL COLLEGE INNOVATION PROJECT | BRAND NEW DEVICE DEVELOPER & TEAM LEADER

April 2011 – May 2012 | Xi'an, CHINA

- Designed and programmed a high-frequency circuit system to capture entangled photons.
- Leader of the team

TOYOTA TECHNOLOGICAL INSTITUTE AT CHICAGO(TTI-C) | RESEARCH ASSISTANT

August 2016 – Now | Chicago, IL

- Work with Professor Kevin Gimpel on Natural Language Processing researches using machine learning.

RESEARCH PROJECTS(MOST RECENT)

NATURAL LANGUAGE PROCESSING | NATURAL LANGUAGE UNDERSTANDING

June 2016 – February 2017 | Chicago, IL

Pay Attention to the Ending: Strong Neural Baselines for the ROC Story Cloze Task.
In proceedings of ACL 2017, Vancouver, Canada.(First Authorship)
Developed a new set of neural network based models and new sampling strategies
for representation sampling.

Showed interesting result of using small subset of data and story end only.

NATURAL LANGUAGE PROCESSING | REPRESENTATION LEARNING

February 2017 – May 2017 | Chicago, IL

Involving visual information using Convolutional Neural Networks(CNN) to generate
character embeddings for Chinese.

Combining traditional embedder with CNN embedder to boost Language modeling
performance and get the state-of-the-art segmentation performance.

Glyph-aware Embedding of Chinese Characters In proceedings of EMNLP Subword
& Character Level Models in NLP workshop, Copenhagen, Denmark. (co-first
authorship)

NATURAL LANGUAGE PROCESSING | ADVERSARIAL LEARNING IN CONTRASTIVE HINGE LOSS

Oct 2017 - Present | Chicago, IL

We consider adversarial approach in multiple natural language processing tasks
Using adversarial generator we aim at creating more robust training as well as solving
sparse annotation problems in NLP tasks.

This is an on going research project aiming at EMNLP 2018

NATURAL LANGUAGE PROCESSING | STYLE TRANSFER OF TEXT

Oct 2017 - Present | Chicago, IL

Using parallel corpus to learn styles.

Applying styles transfer to news neutralization and emotion elimination.

NATURAL LANGUAGE PROCESSING IN ROBOTICS |

MULTI-AGENTS COMMUNICATION

August 2017 - Present | Chicago, IL

Implemented multi-agents environment.

replicated Emergence of Grounded Compositional Language in Multi-Agent
Populations results.

Applying natural language constrain and utterance length requirement.