XIANGYU (BECKY) PENG

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Research area: Natural Language Generation, Reinforcement Learning,
Knowledge Graph, Game AI, Deep Learning

EDUCATION

Georgia Institute of Technology 𝐆𝐓, Atlanta, Georgia   *Aug 2019 - present*

PhD in Machine Learning, GPA: 4.00/4.00, Advisor: Dr. Mark O. Riedl

Relevant Coursework: Reinforcement Learning; Stochastic Process; Math foundation of Machine Learning; Non-linear Optimization; Advanced Algorithm; Natural Language Processing; Theoretical Statistics

Stanford University 🄂, Stanford, California   *Sep 2017 - Jun 2019*

M.S. in Structure Engineering, GPA: 4.00/4.30, Advisor: Dr. Jack Baker

Relevant Coursework: Deep Learning; Convolutional Neural Networks for Visual Recognition; Machine Learning; Data Mining and Analysis; Mining Massive Data Sets

Shanghai Jiaotong University 🄋, Shanghai, China   *Sep 2013 - Jun 2017*

B.S. in Civil Engineering, GPA: 3.95/4.00, Advisor: Dr. Lulu Zhang

Relevant Coursework: Data structure; Programming Abstractions in C++

WORK EXPERIENCE

Research Scientist Intern   May 2022 - Nov 2022

Salesforce Research   *Palo Alto, CA*

· Proposing a sample-specific ensemble of source models (SESoM) for few-shot fine-tuning to properly transfer knowledge from trained soft prompts of source task (Submitted to ICLR-22)
· SESoM learns from the few-shot target samples to adaptively decide how much each source task should contribute given different target samples.

PhD Data Scientist Intern   May 2021 - Aug 2021

Einstein team, Salesforce   *Boston, MA*

· Proposing Extract-Boost-Finetune for improving automatic product description generation [arxiv]
· Extracting product attributes from product images and boosting the probability of tokens with high similarity with extracted features
· Multimodal language model is fine-tuned with reinforcement learning to generate higher-quality descriptions

Data Scientist Intern   Jun 2018 - Sep 2018

SunPower Corp.   *San Jose, California*

· Exploring feature extraction of 1-second hot-spot cell test by conducting correlation analysis
· Finding effective data representations and evaluation metrics for training neural networks of predicting hot-spot max temperature
· Implementing automatic data recording and correlation analysis interface with python

PUBLICATIONS

Inherently Explainable Reinforcement Learning in Natural Language [arxiv]
Peng, X., Ammanabrolu P., and Riedl, M.
Thirty-sixth Conference on Neural Information Processing Systems (NeurIPS-22)

Guiding Neural Story Generation with Reader Models [arxiv]
Peng, X., Xie, K., Alabdulkarim, A., Kayam, H., Dani, S. and Riedl, M.O.
Findings of the Association for Computational Linguistics: EMNLP 2022

Inferring the Reader: Guiding Automated Story Generation with Commonsense Reasoning [arxiv]
Peng, X., Li, S., Wiegreffe, S. and Riedl, M.
Findings of the Association for Computational Linguistics: EMNLP 2022

XFBoost: Improving Text Generation with Controllable Decoders [arxiv]
Peng, X., Sollami M.
Under Review.

Detecting and Adapting to Novelty in Games [arxiv]
Peng, X., Balloch, J., and Riedl, M.
Creativity and Robotics at ICSR 2020;||Reinforcement Learning in Games workshop at AAAI 2021

Automatic Story Generation: Challenges and Attempts. [arxiv]
Alabdulkarim A.*, Li S.*, **Peng, X.***
Poster Presentation. The 3rd Workshop On Narrative Understanding in NAACL-21

Reducing Non-Normative Text Generation from Language Models [arxiv]
Peng, X., Li, S., Frazier, S. and Riedl, M.
Oral Presentation. The 13th International Conference on Natural Language Generation (INLG 2020)

Improving Neural Storytelling with Commonsense Inferences
Peng, X., Li, S., Wiegreffe, S.
Poster Presentation. Woman in Machine Learning workshop on NeurIPS-20

SKILLS

Technical: Natural Language Processing, Reinforcement Learning, Machine Learning, Knowledge Graphs, Predictive Analytics, Computer Vison

Programming: C/C++, Python, R, SQL, MATLAB, Julia

Tools and Framework: Pytorch, Tensorflow, Git, scikit-learn, Numpy, Pandas, nltk

AWARDS

NeurIPS Women in Machine Learning Workshop Travel Grant *Dec 2020*

Stewart Fellowship, Georgia Institute of Technology *Aug 2019*

Outstanding Graduates of Class 2017, Shanghai Jiaotong University *Jun 2017*

National Scholarship of China (Top 1%), Shanghai Jiaotong University *Jan 2017*

Baogang Scholarship of China (Top 0.5%), Shanghai Jiaotong University *Oct 2016*