

SHAOJIE JIANG

Senior Machine Learning Scientist

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I worked as a Senior Machine Learning Scientist at Huawei R&D Center Amsterdam. I worked on training Huawei's ChatGPT models, and am responsible for the Reinforcement Learning algorithm development and model training. More broadly, my work involves chatbots, information retrieval and conversational QA systems. In parallel, I am completing my PhD at the University of Amsterdam. I have interned at Replika.ai and Amazon.com.

WORKING EXPERIENCE

- 2022.07 - 2023.08 **Huawei R&D Center**, Amsterdam, the Netherlands
Senior Machine Learning Scientist
Area: ChatGPT, Chatbots and Conversational QA Systems
Responsibility:
- Reward model and PPO algorithm development and model training (core of the ChatGPT model)
 - Designer and main contributor of Chair, a research toolkit in Python (70% of commits), which is capable of training SFT, RM, and PPO models through one line of command
 - Lead of **ChatEval** challenge project at **DSTC 11**
 - Contact person of the Conversational AI project
 - Contact person of **DReaMS Lab** work package 3
- Skills:** Python, PyTorch, NLP, NLU, LLM, Chatbot, Information Retrieval, Retrieval-Augmented Generation, Machine Learning, Deep Learning, Model Architecture Design, Reinforcement Learning (RLHF), Research, Problem Solving, Model Training/Finetuning, Model Evaluation (Human Evaluation), Data Science, Data Engineering, Leadership, Project Management, Teamwork, Architecture (**XGPT toolkit**), CI/CD, Docker, SaaS, MaaS, AWS, Linux, Git, Jupyter
- 2021.02 - 2021.07 **Replika**, San Francisco, USA
NLP Research Intern
Project: Improving Generative Dialogue Engagingness
Team: AI Research Team
Mentor: Artem Rodichev

Outcome: A chatbot model with improved engagingness, and a follow-up research paper accepted at CHIIR 2023 (see below)

Skills: Python, PyTorch, NLP, LLM, Chatbot, Deep Learning, Research, Problem Solving, Model Training/Finetuning, Model Evaluation (Human Evaluation), A/B Testing, Data Science, Data Engineering, Teamwork, Docker, SaaS, MaaS, GCP, Linux, Git, Jupyter

2020.07 - 2020.09 [Amazon.com](https://www.amazon.com), Inc., Amsterdam, The Netherlands

Applied Science Intern on NLP

Project: Customer Review Summarisation

Team: Subjective NLP

Mentor: Alex Klementiev

Outcome: An automatic aspect extraction system for customer reviews

Skills: Python, PyTorch, NLP, NLU, Machine Learning, Deep Learning, Research, Problem Solving, Model Training/Finetuning, Data Science, Data Engineering, Teamwork, Docker, SaaS, MaaS, AWS, Linux, Git, Jupyter, SageMaker

EDUCATION

2017 - present

University of Amsterdam, The Netherlands

PhD Candidate

Research area: *Open-domain Dialogue Systems*

Supervisors: Prof. dr. Maarten de Rijke & Dr. Svitlana Vakulenko

Thesis plan: Expected to finish by October 2023

2014 - 2017

Northwest A&F University, Yangling, China

Master of Engineering

Thesis: *Research on Feature Representation and Optimization Methods in Structured Object Tracking*

Supervisor: Prof. Jifeng Ning

2010 - 2014

Northwest A&F University, Yangling, China

Bachelor of Engineering

Thesis: *Implementation of Single Image Haze Removal Using Dark Channel Prior*

Advisors: Dr. Yaojun Geng and Prof. Jifeng Ning

PUBLICATIONS

Shaojie Jiang, Ruqing Zhang, Svitlana Vakulenko, and Maarten de Rijke. "A Simple Contrastive Learning Objective for Alleviating Neural Text Degeneration." Submitting to the TOIS journal (impact factor 4.657).

Shaojie Jiang, Svitlana Vakulenko, and Maarten de Rijke. “*Weakly Supervised Turn-level Engagingness Evaluator for Dialogues*.” To appear in CHIIR 2023 as a full paper. Source code link below (Lit-Seq).

Shaojie Jiang, Ruqing Zhang, Svitlana Vakulenko, and Maarten de Rijke. “*A Simple Contrastive Learning Objective for Alleviating Neural Text Degeneration*.” arXiv preprint arXiv:2205.02517. 2022. Source code link below (Lit-Seq).

Shaojie Jiang, Thomas Wolf, Christof Monz, and Maarten de Rijke. “*TLDR: Token Loss Dynamic Reweighting for Reducing Repetitive Utterance Generation*.” arXiv preprint arXiv:2003.11963. 2020. Source code link below (TLDR).

Shaojie Jiang, Pengjie Ren, Christof Monz, and Maarten de Rijke. “*Improving Neural Response Diversity with Frequency-Aware Cross-Entropy Loss*.” In The World Wide Web Conference, pp. 2879-2885. ACM, 2019. Source code link below (FACE).

Shaojie Jiang, and Maarten de Rijke. “*Why are Sequence-to-Sequence Models So Dull? Understanding the Low-Diversity Problem of Chatbots*.” In Proceedings of the 2018 EMNLP Workshop SCAI: The 2nd International Workshop on Search-Oriented Conversational AI, pp. 81-86. 2018.

Shaojie Jiang, Jifeng Ning, Cheng Cai, and Yunsong Li. “*Robust Struck tracker via color Haar-like feature and selective updating*.” Signal, Image and Video Processing 11, no. 6 (2017): 1073-1080.

Jifeng Ning, Jimei Yang, **Shaojie Jiang**, Lei Zhang, and Ming-Hsuan Yang. “*Object tracking via dual linear structured SVM and explicit feature map*.” In Proceedings of the IEEE conference on computer vision and pattern recognition, pp. 4266-4274. 2016.

OPEN SOURCE CONTRIBUTIONS

XGPT Toolkit	https://github.com/ShaojieJiang/xgpt
Lit-Seq project	https://github.com/ShaojieJiang/lit-seq
TLDR project	https://github.com/ShaojieJiang/tldr
FACE project	https://github.com/ShaojieJiang/FACE

AWARDS

2019	Invited by NLP Summit at Google Zurich
2018	Student Travel Grant for the 2nd SCAI Workshop

2017	Faculty Outstanding Master Thesis Award
2013	National Endeavor Scholarship
2012	National Endeavor Scholarship

TEACHING AND SUPERVISION

2021.02 - 2020.03	Teaching Assistant for Master AI course Information Retrieval 1
2019.11 - 2020.06	Master AI Thesis Supervision: Traian Vidraşcu, <i>"Link Prediction for Software Graphs using Inbound and Outbound Neighborhoods"</i>
2019.11 - 2020.06	Master AI Thesis Supervision: Kai Liang, <i>"Neural Hierarchical Text Classification with Transfer Learning Approaches"</i>
2019.04 - 2019.07	Master Data Science Thesis Supervision: Savvina Daniil, <i>"Training Support Vector Machines Using Multi-Party Computation"</i>
2019.06 - 2019.06	Teaching Assistant for Master AI Project-AI course on "Repetition Reduction for Chatbots"
2018.10 - 2018.12	Teaching Assistant for Master AI course Information Retrieval 2 on "Hierarchical Neural Response Generation"
2018.01 - 2018.06	Master AI Thesis Supervision: Ricardo Fabián Guevara Meléndez, <i>"Task-Oriented Dialog Agents Using Memory-Networks and Ensemble Learning"</i>

COMMUNITY SERVICE

2022	Reviewer of TOIS
2021	Reviewer for JSCT and TALLIP
2020.02-2021.02	Member of PhD Council at the Informatics Institute of the University of Amsterdam
2020	Reviewer for TOIS, ACL, EMNLP and EACL
2019.09-2020.11	Representative of Informatics Institute on PhD Council of the Faculty of Science of the University of Amsterdam
2019.03-2019.06	Subreviewer for SIGIR and CIKM

MORE SKILLS Unity, LaTeX, Rust, Photography

REFERENCES

Prof. dr. Maarten de Rijke My PhD Supervisor, Distinguished University Professor AI & IR at University of Amsterdam, Director Innovation Center for Artificial Intelligence. Email: m.deRijke@uva.nl

Dr. Jun Luo

Former Colleague, Machine Translation team lead at Huawei R&D Center Amsterdam. Email: junluo@huawei.com

October 6, 2023