



Yijia Shao

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EDUCATION

- Peking University**, Beijing *Sep 2019 - July 2023 (expected)*
BS in Data Science, Yuanpei College | **GPA: 3.94/4.00 (1/305)**

RESEARCH EXPERIENCE

- Wangxuan Institute of Computer Technology, Peking University**, Beijing *Oct 2020 - Present*
Student Research Assistant instructed by Prof. Bing Liu (Distinguished Professor of UIC)
 - Out-of-Distribution Detection**: Designed SOTA algorithm for OOD detection through pseudo OOD data generation; the proposed algorithm is *10 times faster* than contrastive learning methods
 - Continual Training of Language Models**: Improved pre-trained language models for domain-specific data through a guided integration of both specialized and general knowledge; designed algorithm to pre-train in a continual learning setting
- Plus Lab, University of California, Los Angeles**, Los Angeles, CA (remote) *July 2022 - Oct 2022*
Visiting Summer Intern instructed by Prof. Nanyun (Violet) Peng
 - Commonsense Evaluation of Dialogue Systems**: Designed a commonsense evaluation metric which leverages symbolic representations and the Commonsense Knowledge Base; created dataset for dialogue commonsense evaluation via crowdsourcing
- Data, Knowledge, and Intelligence, Microsoft Research Asia**, Beijing *Jan 2022 - July 2022*
Research Intern instructed by Dr. Mengyu Zhou
 - Metadata Modeling for Tabular Data**: Designed and implemented algorithm to analyze the metadata of tables to enhance the understanding of tabular data in downstream tasks; deployed the model to Azure Synapse to improve pivot chart recommendation
 - FormLM for Online Form Understanding**: Designed FormLM, a transformer-based model with modules for structural encoding, and collected the first open online form dataset through Cosmos to conduct continual pre-training
 - Awarded “**Stars of Tomorrow**” certificate for accomplishments in the internship

PROFESSIONAL EXPERIENCE

- Peking University**, Beijing *Fall 2022*
Teaching Assistant of Introductory Topics in Data Science with Prof. Tiejun Li
- TensorFlow Lite, Google**, Beijing *July 2021 - Sep 2021*
Engineering Intern hosted by Tiezhen Wang and Chao Mei
 - Model Maker UI Prototype**: Designed and built a cross-platform UI prototype above TensorFlow Lite APIs mainly using Flutter and Dart; received a *peer bonus* for recognizing the exceptional work from the product manager
 - Contributed code to **TensorFlow core** in C++

PUBLICATIONS

- Yijia Shao**, Mengyu Zhou, Yifan Zhong, Tao Wu, Hongwei Han, Gideon Huang, and Dongmei Zhang. “FormLM: Recommending Creation Ideas for Online Forms by Modeling Semantic and Structural Information”. In *Proceedings of the 2022 Conference on Empirical Methods in Natural Language Processing*, 2022
- Zixuan Ke, **Yijia Shao**, Haowei Lin, Hu Xu, Lei Shu, and Bing Liu. “Adapting a Language Model While Preserving its General Knowledge”. In *Proceedings of the 2022 Conference on Empirical Methods in Natural Language Processing*, 2022
- Zixuan Ke, Haowei Lin, **Yijia Shao**, Hu Xu, Lei Shu, and Bing Liu. “Continual Training of Language Models for Few-Shot Learning”. In *Proceedings of the 2022 Conference on Empirical Methods in Natural Language Processing*, 2022
- Mengyu Wang*, **Yijia Shao***, Haowei Lin, Wenpeng Hu, and Bing Liu. “CMG: A Class-Mixed Generation Approach to Out-of-Distribution Detection”. In *Joint European Conference on Machine Learning and Knowledge Discovery in Databases*. Springer, Cham, 2022

LEADERSHIP

- Data Science Association of Yuanpei College, Peking University**, Beijing *Jun 2021 - May 2022*
President
 - Yuanpei College Intelligent Campus Project**: Led the development of Yuanpei Underground Management System using Django framework which automates the resource management (*e.g.*, room booking, notification, *etc.*) and *is used by 1.2k students* in our college

HONORS AND AWARDS

- May 4th Scholarship (the highest honor for students in Peking University), 2021
- National Scholarship (top 1%), 2020, 2022
- First prize in 12th Chinese Mathematics Competition Final (the only woman in the list), 2020
- First Class Scholarship for Freshmen of Peking University (rank 2/315k in National College Entrance Examination), 2019

SKILLS, INTEREST & OTHERS

- Programming Languages**: Python, C/C++, Dart, Bash, SQL, HTML, CSS, JavaScript
- Frameworks & Tools**: PyTorch, Scikit-learn, Django, Git, CUDA, Azure Cosmos
- Languages**: Chinese (native), English (proficient, GRE 339+4.5, TOEFL 113), French (preliminary)
- Interests**: Travelling, Swimming, Dancing (traditional Chinese dance, Latin dance, Waltz)