



Aibibula Atawula

Earned ph.d degree in
Computer Science

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Profile

Aibibula Atawula earned his Ph.D. degree in Computer Applied Technology at the University of Chinese Academy of Sciences, China. Previously, he received a bachelor's degree in Computer Science and Technology from Liaoning Technical University, China, awarded in 2015. During his master's studies, he qualified for the Successive Master-Doctor Program, and has completed his Ph.D. studies in 2024. During his doctoral studies, his research focused on task-oriented dialogue systems, exploring domain diversity, low-resource learning, and continuous learning.

Skills

Programming:

- Python ● ● ● ● ●
- Java, C++ ● ● ● ● ●
- Matlab ● ● ● ● ●

Tools:

- Pytorch ● ● ● ● ●
- Django Web ● ● ● ● ●

Develop Tools:

- Pycharm ● ● ● ● ●
- VS Code ● ● ● ● ●

Area of Interests

- Research on Task-oriented Dialogue Systems** aims to achieve smarter, more efficient, and user-friendly conversational interaction experiences.
- Low-resource NLP** is about NLP application in low-resource languages e.g. *domain transfer* from rich-resource languages to low-resource languages, application of LLM in endangered languages salvation.
- AI + "sth."** I believe AI will be deeply applied in various fields such as health-care and education, and will promote advancements in these fields.

During my doctoral studies, I focused on multi-domain task-oriented dialogue systems, specifically exploring the multi-domains modeling, knowledge transfer across different domains, and the application of continual learning techniques. All of these works aimed to address crucial challenges such as data scarcity in multi-domain task-oriented dialogue systems. Post-graduation, my work has revolved around expanding large-scale models to support multiple languages and fine-tuning them for specific vertical domains.

Education

- Sept. 2021 – ongoing **Ph.D. Candidate in Computer Applied technology** UCAS, China
Title: Research On Key Technologies of Multi-Domain Task- oriented Dialogue Systems.
Supervisors: Prof. Xi Zhou
Grade: GPA: 3.49/4

Dialogue system

Low-resource NLP

Continual learning

Large Language Models
- Sept. 2019 – Sept. 2021 **M.S.c Candidate in Computer Applied technology** UCAS, China
Title: Research and application of Multi-domain Dialogue State Tracking
Supervisors: Prof. Xi Zhou
Grade: GPA: 3.48/4

Dialogue system

Dialogue State Tracking

Knowledge Graph
- Sept. 2015 – Jul. 2019 **B.Sc. in Computer Science and Technology** LNTU, China
Project Title: Design and Implementation of Shopping Website Based on Django Web Framework.
Supervisors: Dr. Wei Wang
Grade: Excellent (Ranked 1th among 150 students),GPA:3.63/4.5

Django Web

Online shopping

Competition

- Mar. 2018 **China Collegiate Computing Contest(C4)–Group** Third Prize
- Oct. 2017 **Programming Ladder Tournament**
- Oct. 2017 **Liaoning Mobile Application development Competition for College Students** Second Prize
Entry: Fire Alarm System Based On WiFi Network
- Nov. 2016 **Liaoning Mobile Application development Competition for College Students** Third Prize
Entry: Driving School Booking APP
- Jul. 2016 **Liaoning Computer Application Design Competition for College Students** Third Prize
Entry: Handheld Ta
- May 2018 **Liaoning Technical University Tenth "Eagle Cup" College Students Innovation and Entrepreneurship Competition** Bronze
Entry: Campus healthy eating record platform
- Dec. 2015 **Liaoning Technical University Twelfth PowerPoint Design Competition** Second Prize
Entry: PowerPoint Animation Themed Hardworking

Languages

Uyghur (Mother Tongue)	
Chinese (Education Language)	
English (CET4: 515 IETLS: 6)	

Honours and Scholarship

Honours

May 2018	The Stars of Self-improvement of Chinese College Students (Nominee Awards)	China
Jun. 2019	Excellent graduates	Liaoning, China
Apr. 2018	The 12th Top ten College Students(Ultimate Accolade in LNTU)	LNTU, China

Scholarship

Sept. 2020/2019	UCAS academic scholarship	UCAS, China
Nov. 2018	UCAS College Students Scholarship	UCAS, China
Sept. 2018/2016	National Encouragement Scholarship (Twice)	MoE, China
Sept. 2018	Liaoning Technical University Outstanding Students Special Scholarship	LNTU, China
Nov. 2018	XinFuXing Scholarship	LNTU, China
Oct. 2023	China National Scholarship	MoE, China

Publications

- **Abibulla Atawulla**, Xi Zhou*, Yating Yang*, Bo Ma and Fengyi Yang. A Slot-shared Span Prediction-based Neural Network for Multi-Domain Dialogue State Tracking. ICASSP 2023.[\[link\]](#)
- **Abibulla Atawulla**, Fengyi Yang, Yating Yang, Yi Wang and Xi Zhou (2024). Dynamic Schema-Constrained Multi-Domain Dialogue State Tracking Model. Journal of Chinese Computer & Systems, JCCS (Chinese). [\[link\]](#)
- Zhengdong Luo*, **Abibulla Atawulla**, Fengyi Yang, Yongqing Zhu, Yixiao Ren, Yunfei Han and Xi Zhou*. TabCGOK: Intra-Class Groups Retrieval and Inter-Class Ordinal Knowledge Augmented Network for Ordinal Tabular Data Prediction. ECAI 2024. [\[link\]](#)
- Fengyi Yang, Xi Zhou*, Yating Yang, Bo Ma, Rui Dong, **Abibulla Atawulla**. A Domain-Transfer Meta Task Design Paradigm for Few-Shot Slot Tagging. AAAI 2023. [\[link\]](#).
- Fengyi Yang, Xi Zhou*, Yi Wang, **Abibulla Atawulla**, Ran Bi. Diversity Features Enhanced Prototypical Network for Few-Shot Intent Detection. IJCAI 2022. [\[link\]](#)
- Guo Xinyu, Ma Bo, **Abibulla Atawulla**, Yang Fengyi, Zhou Xi (2024). Dynamic Heterogeneous Graph Enhanced Cascade Decoding Event Extraction Model. Computer Engineering (Chinese).
- **Abibulla Atawulla**, Xi Zhou, Yating Yang and Fengyi Yang (2024). A Parameter-efficient Continual Learning Methods for Task-oriented dialogue Systems with Instructions. Manuscript is under preparation.

Patents

- 周喜, 艾比布拉·阿塔伍拉, 杨雅婷, 马博, 杨奉毅。基于槽位共享跨度预测的多领域对话状态追踪方法、装置、设备及存储介质 (**Zh2En**: Zhou Xi, **Abibulla Atawulla**, Yang Yating, Ma Bo, Yang Fengyi. A Method, Device, Equipment, and Storage Medium for A Slot-shared Span Prediction-based Multi-Domain Dialogue State Tracking). Pub No.: 116956942A,.
- 周喜, 杨奉毅, 杨雅婷, 马博, 董瑞,艾比布拉·阿塔伍拉一种小样本槽值提取方法、装置、设备及存储介质 (**Zh2En**: Zhou Xi,Yang Fengyi, Yang Yating, Ma Bo, **Abibulla Atawulla**. A Method, Device, Equipment, and Storage Medium for Few-shot Slot Value Extraction). Pub No.:116362242A.

- 周喜,杨奉毅,杨雅婷,马博,董瑞,艾比布拉·阿塔伍拉,鲁凯文,蒋同海. 基于思维链的动态语义检索方法、装置、设备及介质. (Zh2En: Zhou Xi, Yang Fengyi, Yang Yating, Ma Bo, Dong Rui, **Abibulla Atawulla**, Lu Kaiwen, Jiang Tonghai. A Method, Device, Equipment, and Medium for the Dynamic Semantic Retrieval Based on a Chain of Thought) .App No.: 2024108429146.
- 周喜,杨奉毅,杨雅婷,马博,王磊,艾比布拉·阿塔伍拉,毕然,蒋同海。结构化数据语义表征方法、装置、设备及介质. (Zh2En: Zhou Xi, Yang Fengyi, Yang Yating, Ma Bo, Wang Lei, **Abibulla Atawulla**, Bi Ran, Jiang Tonghai. A Method, Device, Equipment, and Medium for Structured Data Semantic Representation). App No.: 2024106876107.

Academic Service & Presentation

October 2023	Serving as a reviewer for the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2024).
June 2023	Gave a presentation on "Research Progress on Dialogue State Tracking in Task-Oriented Dialogues" at the Chinese Computer Federation (CCF) Salon at Urumqi.
October 2023	Attended the 2023 China National Computer Congress (CNCC 2023) with sponsorship (Class A sponsorship) from the Chinese Computer Federation (CCF).
May 2021	Gave a presentation titled "How Information Technology is Changing Our Lives" to high school students during Science Popularization Week organized by Xinjiang Branch CAS (online)