Beilong Tang

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EDUCATION

Duke Kunshan University (DKU) & Duke University Dual Degree Class of 2025
B.S. in Computer Science (DKU) Kunshan, China
B.S. in Interdisciplinary Studies; Applied Math & Computational Science; Computer Science (Duke) Durham, U.S.

- GPA: 3.847/4.0; Dean's List: Fall 2021(top 30%), Spring 2022(top 10%), Fall 2022(top 10%), Spring 2023(top 10%)
- 75% Tuition Scholarship for Undergraduate Program: UGRD Entrance Scholarship, JF Progressive Scholarship
- Notable Courses:
    - COMPSCI 309 Elements of Machine Learning – A
    - COMPSCI 311 Computer Network Architecture – A+
    - COMPSCI 402 Artificial Intelligence – A
    - STATS 303 Statistical Machine Learning – A-
    - MATH 302 Numerical Analysis – A+
    - (Duke) COMPSCI 308 Advanced Software Design and Implementation – A
    - (Graduate at Duke) ECE 689 Advanced Topics in Deep Learning – A+
    - (Graduate at Duke) ECE 572 Introduction to Natural Language Processing – A

RESEARCH INTEREST

Signal processing, Speech separation and enhancement, Natural Language Proecssing, IoT, Federated Learning, Edge computing, Software development

RESEARCH EXPERIENCE

The SMIIP Lab at DKU
Research Assistant for Speech Processing under the supervision of Prof. Ming Li Kunshan, China

- Explore discretization methods for mixed speech
- Conduct speech separation and enhancement using Large Language Models
- My first-author paper TSELM: Target Speaker Extraction using Discrete tokens and Language Models is submitted to ICASSP which is the first to investigate the use of audio tokens and language models for target speaker extraction through comparative experiments and comprehensive metrics.

The Edge Intelligence Lab at DKU
Research Assistant for Federated Learning under the supervision of Prof. Bing Luo Kunshan, China

- Deploy Federated Learning (FL) and Federated Analytics (FA) on Edge Devices
- Build privacy-preserving health monitoring system using FL and FA on DKU campus
- Android and iOS full-stack development

PUBLICATIONS

Tang, B., Zeng, B., & Li, M. (2024). TSELM: Target Speaker Extraction using Discrete Tokens and Language Models. *arXiv preprint arXiv:2409.07841*. (Submitted to ICASSP 2025)

Geng, J., **Tang, B.**, Zhang, B., Shao, J., & Luo, B. (2024). Demo: FedCampus: A real-world privacy-preserving mobile application for smart campus via federated learning & analytics. In *Proceedings of the 25th International Symposium on Theory, Algorithmic Foundations, and Protocol Design for Mobile Networks and Mobile Computing (MobiHoc '24)*. ACM.

He, S., **Tang, B.**, Zhang, B., Shao, J., Ouyang, X., Nugraha, D. N., & Luo, B. (2024). Fedkit: Enabling cross-platform federated learning for Android and iOS. In *IEEE INFOCOM 2024 - IEEE Conference on Computer Communications Workshops (INFOCOM WKSHPS)* (pp. 1–2). https://doi.org/10.1109/INFOCOMWKSHPS61880.2024.10620662

TEACHING EXPERIENCE

The Computer Science Center at DKU May 2022-May 2023
Student Worker and Teaching Assistant for COMPSCI 201: Intro to Programming and Data Structures Kunshan, China

- Develop Quiz Website using Django framework in Python. No bugs are reported in usage.
- Cooperate with other teaching assistants to come up with new quizzes and teaching plans for the course.
- Cover course material and homework in recitation and lab sections, and the students' grades are improved.

SKILLS

- English (fluent) with TOEFL scores 107, Mandarin (native)
- Excellent knowledge of a lot of programming languages and frameworks: Python, Pytorch, Django, Java, Javascript, Vue, SML-NJ, MySQL

HOBBIES AND INTERESTS

I love running, and I am currently the president of DKU Running Club. We hold daily practices, and we have park run once every two weeks open to community. We also attend races including cross-countries, half-marathons and marathons. I've done a marathon, multiple half-marathons and multiple cross-countries. My personal record for half-marathon is 1hr25mins. I also like playing basketball (I'm a former DKU basketball player), hiking, free combat boxing, video games, music and drums.