PENGXIANG WANG (Shawn)

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Summary: PhD candidate in applied mathematics, math background + 5 years of experience on *machine learning*, currently researching *continual learning*

EDUCATION

University of Bristol, School of Engineering Mathematics Visiting Research Associate, Supervisor: Prof Weiru Liu, Prof Jun Hong	Dec 2023 - Dec 2024 Bristol, UK
Peking University, School of Mathematical Sciences PhD Candidate, Applied Mathematics, Supervisor: Dr Kedian Mu	Sep 2020 - Present Beijing, China
Beijing Institute of Technology, School of Maths and Statistics Bachelor of Science, Information and Computing Science Average Score: 91.5/100 Rank: 2/37 Awarded Outstanding Graduate	Aug 2016 - Jul 2020 Beijing, China

PUBLICATIONS

AdaHAT: Adaptive Hard Attention to the Task in Task-Incremental Learning • Developed a novel continual learning architecture with adaptive gradient adjustment mechanism, making full use of information from tasks • Resolved network capacity problem and balanced stability-plasticity trade-off	1st Author, 2024 ECML PKDD Conference
Predicting Student Performance Using Weblogs • Predict student learning performance through anonymized weblog data with an LSTM-based model	2019 ICCSE Conference

SKILLS

- **Programming:** Python (Primary), C & C++, MATLAB. Fluent in academic writing with LaTeX
- **Languages:** English (Fluent), Mandarin Chinese (Native), Japanese (Beginner)

OPEN-SOURCE SOFTWARE

Continual Learning Arena (CLArena) • Open-source Python package for CL research (published in PyPI) • Implemented multiple CL algorithms, datasets and backbones • Ideal platform for CL research experiments and applications	2023 – Present Sole Developer

TEACHING EXPERIENCE

Math Teaching Assistant at Peking University • Courses: Advanced Mathematics (Calculus), Probability and Statistics • Conducted tutorial and QA sessions for undergraduate students	2020 – Present

SELECTED TALKS

Architecture-Based Approaches in Continual Learning • Literature review on a specific methodology in CL research, which is what I am currently researching. Brief intro to the AdaHAT model	31/10/2024 National Frontier Math PhD Forum
A Beginner's Guide to Continual Learning • A comprehensive guide to CL concepts, definitions, methodology and challenges, as well as cutting-edge research developments	03/10/2024 UoB FinTech Seminar

SELECTED AWARDS

Mathematical Contest in Modeling (MCM)	International	Meritorious Winner	2019
Chinese Mathematics Competitions	National	Second Prize	2018
Chinese Physics Competitions (Regional)	National	First Prize	2017
Outstanding Student	University	2017-2019 at BIT, 2024 at PKU	
Social Worker Award	University	2022-2023 at PKU	