

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

Aug 2016 - Jul 2020

Beijing, China

Average Score: 91.5/100 Rank: 2/37 Awarded Outstanding Graduate

PUBLICATIONS

AdaHAT: Adaptive Hard Attention to the Task in Task-Incremental Learning

1st Author, 2024

- 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

ECML PKDD
Conference

Predicting Student Performance Using Weblogs

2019

- Predict student learning performance through anonymized weblog data with an LSTM-based model

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)

2023 – Present

- 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

Sole Developer

TEACHING EXPERIENCE

Math Teaching Assistant at Peking University

2020 – Present

- Courses: Advanced Mathematics (Calculus), Probability and Statistics
- Conducted tutorial and QA sessions for undergraduate students

SELECTED TALKS

Architecture-Based Approaches in Continual Learning

31/10/2024

- Literature review on a specific methodology in CL research, which is what I am currently researching. Brief intro to the AdaHAT model

National Frontier
Math PhD Forum

A Beginner's Guide to Continual Learning

03/10/2024

- A comprehensive guide to CL concepts, definitions, methodology and challenges, as well as cutting-edge research developments

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