Yu Xinmeng

PERSONAL INFORMATION

Address: Yuhangtang Road, Hangzhou Normal University, Hangzhou, China
Phone: 18075322078 **Email:** yxm981203@163.com
Personal website (based on Github): https://wooooov.github.io/

EDUCATION BACKGROUND

Hangzhou Normal University Hangzhou, Zhejiang
Master of Engineering Technology for computer applications
Admission Date: September 2021
Graduation Date: June 2024

Courses include: (Average score: 88/100)

- *Algorithm design and analysis*

  The assessment method of this course was biweekly class presentation. Due to my detailed and logical presentations, I got 96 points out of 100 in this subject.

- *Advanced data structure and algorithm*

  This course was assessed by assignments and the final exam. I carefully completed the programming homework and fully prepared for the exam, and finally got 95/100 in this course.

Research direction:

My research direction during the master's stage is the theoretical study of single-objective evolutionary algorithms. Evolutionary algorithms are a class of computational optimization techniques inspired by the principles of natural evolution. They mimic the process of natural selection, where individuals with favorable traits are more likely to survive and reproduce, leading to the emergence of better solutions over generations.

My research mainly focus on particle swarm optimization (PSO), which is an important branch under the umbrella of evolutionary algorithms. I have conducted some experiments on PSO and its variants, enhance their search capability and improve their optimization performance aiming to better solve single-objective optimization problems.

Anhui University of Chinese Medicine Hefei, Anhui
Bachelor of Engineering Information management and information system
Admission Date: September 2016
Graduation Date: June 2020

Courses include: (GPA:3.33/4)

- *Database principle and application*

This course mainly taught fundamental theories, technologies, and methods of databases. It was assessed by the final examination and I got 90/100.

- *Data structure and algorithm*

This course introduces basic data structures and related classical algorithms, focusing on the connections between problems, data, and algorithms. The course was assessed by the final exam, and I got 90 points out of 100.

ACADEMIC ACHIEVEMENTS

An improved ensemble particle swarm optimizer using niching behavior and covariance matrix adapted retreat phase

Accepted by ***Swarm and Evolutionary Computation***. (IF: 10.267, JCR: Q1)
(Received 15 July 2022, Accepted 9 February 2023)

This paper proposed a particle swarm optimizer variant named IEPSO. Based on part of the original EPSO, we introduced a niching-based method, incorporated a local search algorithm and designed a sample pool disturbance mechanism. The performance of the proposed algorithm was evaluated on CEC2005 benchmark functions and we compared it with six state-of-the-art PSO variants. Experimental results demonstrated that the improved EPSO, using local search strategy, niching behavior, and sample pool mechanism, performed best.

A Sequential Quadratic Programming Based Strategy for Particle Swarm Optimization on Single-Objective Numerical Optimization

With editor in ***Information Sciences***.

This paper proposed a particle swarm optimizer variant named SQPPSO-sono. The proposed algorithm made two major modifications on the original PSO-sono algorithm: one is designing a novel adaptive calculation mechanism of population proportion, and the other is introducing a local search mechanism involves sequential quadratic programming strategy to accelerate convergence. This algorithm first uses particle swarm optimizations for global search, and then proceed with a mechanism involves sequential quadratic programming method for local search. Finally, the proposed algorithm was tested on CEC2013, CEC2014 and CEC2017 benchmark functions of multiple dimensions, and the results showed that the proposed algorithm presented better performance than six other algorithms.

BASIC SKILLS

Computer abilities:

- Mastered programming language: C, C++, Matlab
- Related certifications:

2023.03 Completed the Advanced Level of Programming Ability Test held by Zhejiang University, ranked 95/630

2019.03 Passed National Computer Rank Examination Level-3(network technology)
2018.03 Passed National Computer Rank Examination Level-2(C language)

Language skills:
- Chinese(native), English(CET-6:522; IELTS: 6.0/8.5/6.0/6.0, overall:6.5)

SELECTED HONORS & AWARDS

Scholarships
2022.11 The third prize scholarship of Hangzhou Normal University
2021.11 The third prize scholarship of Hangzhou Normal University
2019.11 **National Encouragement Scholarship**
2018.12 The first prize scholarship of Anhui University of Chinese Medicine
2017.12 The third prize scholarship of Anhui University of Chinese Medicine

Honors
2020.07 **Outstanding Graduates** of Anhui University of Chinese Medicine
2018.06 Excellent league member

Competition awards
2023.07 The **Provincial First Prize** for Brand-A (Postgraduate group) of the 2023 National English Writing Competition for College Students
2023.05 The Second Prize of the 2nd "Ivy Growth" Graduate Academic Conference of College of Information Science and Technology in Hangzhou Normal University
2023.05 The National Second Prize in Category A (English-Chinese) of The 2nd China Young Translator's Contest
2022.12 The Second Prize for Brand-A of The First International English Essay Challenge for College Studnets
2019.05 The National Second Prize for Brand-C of the 2019 National English Competition for College Students (NECCS)
2018.05 The **National First Prize** for Brand-C of the 2018 NECCS
2017.05 The National Second Prize for Brand-C of the 2017 NECCS

Additional Information

- Interested in English learning and good at English reading, translating and writing. I got 140 points out of 150 in English in the National College Entrance Examination and have won some prizes in English related competitions.
- Interested in art design and painting, adept at drawing academic paper charts and designing presentation slides. Take this CV for example, I designed all the templates and contents by myself.
- Hardworking and persistent. Taking personal habit as an example, I started to develop the habit of running in my sophomore year. Until now, I have been sticking to it for over five years and have run over 4,000 kilometers in total.