Qi Yang

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Education

HuaZhong University of Science and Technology Wuhan, China
Bachelor of Engineering - Artificial Intelligence and Automation; *Sep. 2015 - June 2019*

- **GPA:** 3.47/4(Top 30%), especially 3.8/4 in last 2 years.
- **Award:** Outstanding Graduate of HUST (2019) RenMin Scholarship (2018)

Courses: *Math(Probability Theory, Calculus, Linear Algebra, Engineering Mathematics, Operation Research,Equation of Mathematical Physics), Cybernetics(Digital & Analog circuits, Signal Analysis, Control Theory, System Identification, Complexity Science, Systems Engineering, Information System), CS(Data structure & Algorithm, Computer Network, Principle of Micro-Computer, Distributed System, C Programming, Internet Infrastructure), AI(Artificial Intelligence, Machine Learning, Robot Principle, Optimization) etc.*

Southern University of Science and Technology Shenzhen, China
Master of Engineering - Computer Science and Engineering; *Sep. 2019 - June 2022*

- **GPA:** 3.04/4
- **Publication:** 2 published paper (SCI,EI), 1 working paper, 1 invention patent
- **Research Topics:** Reinforcement Learning; Evolutionary Algorithm; Non-convex Optimization;

Courses: *Advanced Algorithms, Advanced Artificial Intelligence, Advanced Computer Network, Academic English Writing, etc.*

Work Experience

International Digital Economy Academy(IDEA) Shenzhen, China
Research Intern / NLP Algorithm Engineer *Jan 2022 - now*

- **Designed** and **developed** the semi-supervised cooperative knowledge-based QA system, draw the idea from RL;
- **Researched** on parameter-efficient transfer learning algorithms for the large model (BERT, GPT, T5 etc.);
- **Contributed** to the large pre-training framework Fengshen.

Skills Set

Code Skills:	Proficient in Python(4 years), Basic in C/C++, Go
AI/ML:	TensorFlow, Pytorch, Matplotlib, Numpy, Pandas, Transformers, etc.
WorkFlow:	Linux, Shell, Git, Docker, Conda, Singularity
Database/Cloud:	SQL, Access, MySQL, Spark, Alicloud, AWS
Language:	IELTS 6.5(Reading 8.5 Writing 6.5); CET-4 and CET-6 certification;
Soft Skills:	Fluency Reading & Writing in Chinese/English; Fast Learning; Presentation; Leadership and Collaboration;

Research Projects

Research on Generalizable Reinforcement Learning Supervisor:Ke Tang
Generalization; Reinforcement Learning; Active Learning; *Nov. 2020 - Jun. 2021*

- **Proposed** and **developed** an active learning framework to selectively sampling representative and valuable training sets, which reduced training budget to 50% and achieved competitive performance.
- **Implemented** 6 relevant SOTAs on improving generalization and **Advanced** the procedural content generation environment of RL.

Research on Cooperative Co-evolution Algorithm in Reinforcement Learning Supervisor:Ke Tang
Derivative-free Algorithm; Large-scale Optimization; Random Embedding; *Jul. 2019 – Jul. 2020*

- **Developed** a group of derivative-free algorithms for large-scale and multi-peak RL optimization problems, exceeds SOTA than 40% and scores double to triple on hard-explored benchmarks respectively.
- **Designed** and **developed** an open-source project for Evolutionary-based RL [NCS-RL]
- **Published** 2 SCI/EI indexed papers and technical reports(Huawei funded), **applied** an invention patent as 1^{st} author.

Publications / Patents

1. Peng Yang, **Qi Yang**, Ke Tang, Xin Yao, Parallel Exploration via Negatively Correlated Search, Frontiers of Computer Science, 2020. (SCI) (Poster, ECOLE2021)
2. **Qi Yang**, Peng Yang, Ke Tang, Parallel Random Embedding with Negatively Correlated Search, In: Advances in Swarm Intelligence, Springer, 2021. (EI)(Oral, ICSI2021)
3. **Qi Yang**, Peng Yang, Ke Tang, Active Reinforcement Learning over MDPs, 2021. (in progress)
4. **Qi Yang**, Peng Yang, Ke Tang, An automatic practical methods in Dynamic Obstacle Avoiding, No.2021108449413.