Kejia Yin

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EDUCATION

School of XUTELI, Beijing Institute of Technology (BIT) Sep 2018 - Jul 2022

B.E. in Computer Science and Technology

Overall GPA: 3.77/4.0 **Major GPA:** 3.95/4.0

Core Courses: Object-Oriented Technology and Method (92), Computational Theory and Algorithm (94), Data Structure (90), C Programming Language (98, top 3), Introduction of Artificial Intelligence (91), Introduction to Software Engineering (95, top 3), Experiments of Operating System (99, top 1), Assembler Language and Interface Technology (94),Computer Networks (99, top 1)

RESEARCH EXPERIENCES

Balancing real-world inverted pendulums via virtual training with RL | Research Assistant Jul 2021- Present

Advisor: Hien Tran, Professor and Associate Head at Department of Mathematics, North Carolina State University

- Implemented Policy Gradient, Actor Critic, and Proximal Policy Optimization with Pytorch and successfully balanced the single inverted pendulum in a modified gym environment which provides a more realistic simulation of physical laws.
- Successfully balanced the double inverted pendulum by using Actor Critic in a modified gym environment.
- Trying to directly apply our trained model in the gym to balance a real single inverted pendulum in the lab.

Long-tailed image classification | Research Assistant Feb 2021- Mar 2021

Advisor: Shuang Li, Assistant Professor at School of Computer Science, Beijing Institute of Technology

- Explored novel approaches to addressing long-tailed image classification problems by augmenting long-tailed datasets via synthesizing new data according to closest neighbor classes.
- Implemented a novel method and evaluated it on artificial long-tailed datasets CIFAR-10 which had competitive results with state-of-the-art methods

Checkerboard recognition and game algorithm of gobang | Research Assistant Dec 2020 - Jan 2021

Advisor: Zhiwei Zhang, Professor at School of Computer Science, Beijing Institute of Technology

- Implemented CNNs for checkerboard recognition with Pytorch.
- Implemented gobang AI algorithms based on the minimax search strategies, evolutionary algorithms, and deep Q-Learning (in Tensorflow).
- Wrote a report to analyze the results of the experiments above. The gobang AI based on minimax search and Deep Q-Learning approaches achieved good performance which is comparable to humans'.

Theoretical understanding and image generation applications with GAN | Research Assistant Nov 2020 - Nov 2020

Advisor: Shuang Li, Assistant Professor at School of Computer Science, Beijing Institute of Technology

- Implemented existing works on generative adversarial networks for images including DCGAN, WGAN, Cycle GAN.
- Wrote a report to analyze the causes of instability of training GAN from the aspect of loss function based on formula derivation and explain the advantages of the loss function used in WGAN.

COURSE PROJECT

Course group of Computer Science fundamental practice | BIT | Group leader Sep 2020 - Sep 2020

- Implemented a software to simulate a simple telemedicine monitoring system with QT.
- Assigned tasks to other group members and monitored their progress, helped them to solve difficult problems and coordinated with them.
- Our group is the first to complete the task, and I received 99 points for this course.

SKILLS

Programming Languages: C/C++, C#, python, html, SQL, Matlab, Latex

Office Applications: Microsoft Office, Photoshop, Premiere, Auto CAD

Framework & Tools: QT, Microsoft SQL Server, Microsoft Visual Studio, Pytorch, Tensorflow

Language: Chinese (Native), English (TOEFL: 102/R: 30 L: 25 S: 23 W: 24; GRE: V: 154 Q: 170 AW: 3.0)