Kejia Yin

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EDUCATION

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

B.S. 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

SPCL: A New Framework for Domain Adaptive Semantic Segmentation via Semantic Prototype-based Contrastive Learning | *Research Assistant*   Sep 2021 – Nov 2021

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

➢ Proposed a novel framework addressing the semantic segmentation task in domain adaptation scenario via semantic prototype-based contrastive learning, and our method achieved new state-of-the-art performance in terms of mIoU.

➢ Implemented our method and conducted analytical experiments verifying our idea's superiority with Pytorch.

➢ Co-authored a paper submitted to CVPR 2022.

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

Advisor: Hien Tran, Professor and Associate Head at the 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 provided a more realistic simulation of physical laws.

➢ Successfully balanced the double inverted pendulum by using Actor Critic in a modified gym environment.

➢ Tried 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 the 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 compared to state-of-the-art methods.

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

Advisor: Shuang Li, Assistant Professor at the 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 explained 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, helping them solve difficult problems and coordinated them.

➢ Our group was the first to complete the task and I received 97 points in 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.

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