

Yiwei Bai

ACM Class – Shanghai Jiao Tong University
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EDUCATION

ACM Class, Shanghai Jiao Tong University

Bachelor of Science, Major in Computer Science

Shanghai

Sept 2014–June 2018

- Member of **ACM Class**, an elite CS program for **top 5%** talented students.
- Cumulative GPA: Overall: 85.7/100 | Major: 87.5/100
- Advisors: Prof. **Yong Yu**, Prof. **Weinan Zhang** and Prof. **Guirong Xue**

PUBLICATION

An Empirical Study of Collective Behaviors in Many-agent Reinforcement Learning

- **Yiwei Bai***, Yaodong Yang*, Lantao Yu*, Jun Wang, Weinan Zhang, Ying Wen, Yong Yu(* indicates equal contribution) CoRR abs/1709.04511(2017)
- Submitted To AAAI 2018

Scalable Relaxations of Sparse Packing Constraints

Optimal Biocontrol in Predator-Prey Networks

- Johan Bjorck, **Yiwei Bai**, Yexiang Xue, Xiaojian Wu, Mark Whitmore, Carla P. Gomes
- Submitted To AAAI 2018

RESEARCH EXPERIENCE

Institute for Computational Sustainability

Visiting Research Intern

Cornell University

June 2017–Dec 2017

- Advisor: Prof. **Carla P. Gomes**
- Learning & Utilizeing Submodular Optimization on biocontrol of invasive species, an important problem in CompSus
- Proposed a scalable approximation algorithm of sparse submodular optimization with Johan
- Applying Reinforcement Learning in the new CompSus field
- Proposed Homogeneous Reinforcement Learning framework for the spatial-temporal decision making task.

APEX Lab

Shanghai Jiao Tong University

Research Assistant

June 2016–June 2017

- Advisors: Prof. **Weinan Zhang** and Prof. **Jun Wang**
- Learned & Utilized Reinforcement Learning in openAI environment and Focused on multi-Agent Reinforcement Learning
- Designed and Developed **Million-level Multi-Agent Reinforcement Learning Platform**, an open-source framework for large scale Multi-Agent Reinforcement Learning.
- Understand AI population with multi-agent reinforcement learning and verify the principles developed in the real world could be applied to AI population.

Tianrang Network Technology Co.,Ltd

Research Intern

Shanghai

June 2016–Mar 2017

- Advisor: Prof. **Guirong Xue**
- Developed **Yi**, an AI system playing **GO(game)**
- Trained and tuned the policy network and value network
- Designed and implemented the reinforcement learning framework of the value network incorporated with policy network
- Yi won the **Third prize** in the first International Computer Go Competition
- Yi won the **Ninth place** in the 10th *UEC Cup*

CyberSecurity Camp@Singapore

Visiting Student

National University of Singapore

Feb 2017

- Organizer: Prof. [Dawn Xiaodong Song](#)
- Learned Courses of Deep Learning and Cyber-Security
- Participated in the Hackthon and did research in adversarial defense under black-box setting

PROJECT EXPERIENCE

ACM-2015-AI-Server

Dec 2015

- An AI server for *Animal Chess*, used in Programming Fall 2015 AI project ACM Honored Class.

Five-Stage MIPS Pipeline in Verilog HDL

Aug 2016

- Designed and implemented a five-stage pipeline for all MIPS integer operations exception co-processor instructions with forwarding optimization

Compiler MFChen

May 2016

- Designed and implemented a highly functional compiler of MFChen, an language mixing C and JAVA, from *Lexical Analysis* to *Register Allocation* phase.

An Emperical Study of Deep Learning Toolkits on Chinese Tone Classification

Jan 2017

- Designed the methods of preprocessing data and feature selection.
- Designed a Convolutional Neural Network model and a Deep Neural Network model.
- Implemented in tensorflow, mxnet and theano and compared the three frameworks.
- Here is the [technical report](#).

HONORS AND AWARDS

Gold Medal of ACM Shanghai Metropolitan Contest(17/190)

Apr 2015

Honorable Mention in 2016 American Mathematical Contest in Modeling(MCM)

Jan 2016

Academic Excellence Scholarship (2nd) of Shanghai Jiao Tong Univ. (TOP 10%)

2015, 2016

Zhiyuan College Honored Scholarship of Shanghai Jiao Tong Univ. (TOP 5%)

2015, 2016

First Prize at the NOIP(Provincial Level of China Information Olympiads)

2013

EXTRACURRICULAR PROJECT

Participated in Deep Learning Books Translation

Apr 2016

- Led by professor [Yu Kai](#).
- Yoshua Bengio, Learning Deep Architecture for AI. [Chinese edition is published](#).

SELECTED ACADEMIC PRESENTATIONS

- A 15-minute presentation in reading club of Deep Learning: **Frontiers of DL for Security**
- A 30-minute presentation in reading club of Reinforcement Learning: **On-policy Prediction with Approximation**
- Invited talk in APEX lab: **From AlphaGo to Yi**

LEADERSHIP and ACTIVITIES

Vice president of GO(game) Club

Sept 2015–Apr 2016

Co-organizer of Shanghai University Student GO Competition

Sept 2015–Apr 2016

Teaching assistant of CS122: Introduction to Programming Language

Sept 2015–Jan 2016