Youya **Xia**

Gates Hall G33, 107 Hoy Road, Ithaca, New York 14850

(+1) 612-718-7640 | yx454@cornell.edu | www.xiayouya.com | xiaxx244 | youya-xia-615594124

Education

Cornell University   *Ithaca, New York*

PH.D. IN COMPUTER SCIENCE   *Aug. 2019 - May 2024*

- Focused on robotics,reinforcement learning and computer vision

University of Minnesota, Twin Cities   *Minneapolis,Minnesota*

B.S. IN COMPUTER SCIENCE AND MATHEMATICS   *Sep. 2015 - May 2019*

- with high distinction

Research Experience

ByteDance AI Lab   *Mountain View, CA*

RESEARCH INTERN UNDER THE GUIDANCE OF DR. XIAOCHEN LIAN, DR. ZHILI CHEN AND YIHENG ZHU   *Jun. 2020 - Aug. 2020*

- Guided Reinforcement Learning for Locomotion Control
  -Propose a bilevel controller such that it uses reinforcement learning as a high level controller to output command into the low level controller to simulate the animation trajectories -Design a simulated gaming system such that the humans are chasing a moving target in a environment with clustered obstacles

HRC2 Lab   *Cornell University*

GRADUATE RESEARCH ASSISTANT UNDER THE GUIDANCE OF PROF. GUY HOFFMAN   *Sep. 2019 - Jun. 2020*

- Shadow Pose Estimation
  -Propose a methodology such that it can be used for estimating humans' poses while still protecting humans' privacy when cameras are covered with various filters -Design experiments to evaluate both the pose estimation results and the results for protecting humans' priavcy

Interactive Robotics and Vision Lab   *University of Minnesota, Twin Cities*

UNDERGRADUATE RESEARCH ASSISTANT UNDER THE GUIDANCE OF PROF.JUNAED SATTAR   *Feb. 2018 - Aug. 2019*

- Visual Diver Recognition for Underwater Human-Robot Collaboration:
  -propose the first vision-based algorithm in the underwater robots area to detect specific diver underwater using deep learning neural network, feature extraction and K-Means clustering algorithm such that the algorithm can not only detect divers underwater but also differentiate between different divers
  -leading author of the paper-Visual Diver Recognition for Underwater Human-Robot Collaboration which has been accepted by the IEEE International Conference on Robotics and Automation 2019
  -Website link to my research:http://irvlab.cs.umn.edu/projects/visual-diver-identification-underwater-hri

- Pose-association:
  -Let robots understand divers' pose underwater.We use Open pose to extract points on the divers' bodies
  -Associating persons' poses from different cameras and scenes using four different person re-identification techniques
  -github link of the project: https://github.com/xiaxx244/person-association

- Underwater image enhancement:
  -work with a Ph.D. student to design a Generative Adversarial Network to improve the quality of underwater images
  -Collecting and releasing an unique underwater image dataset

- Marine Trash Project:
  -help label marine trash data for the project of building a deep vision detection model to detect marine litter
  -get recognition at the end of the paper-Robotic Detection of Marine Litter Using Deep Visual Detection Models which has been submitted by the IEEE/RSJ International Conference on Intelligent Robots and Systems 2018

- other work:
  -help conduct monthly pool or lake trials for underwater robots
  -help fix software malfunctioning of robots in our lab

GroupLens Lab   *University of Minnesota, Twin Cities*

Undergraduate research assistant under the guidance of Max Harper   *Sep. 2017 - Apr. 2018*

- Moviemood project:
  -help build a movie recommendation system which recommends movies based on the mood words users suggest using natural language processing toolkits, such as Gensim and spaCy

Working Experience

ByteDance AI Lab   *Mountain View, CA*

Research Intern   *Jun. 2020 - Aug. 2020*

- Guided Reinforcement Learning for Locomotion Control

Department of Computer Science   *Cornell University*

Teaching Assistant for CS3110(Functional Programming)   *Aug. 2019 - present*

- Construct and grade midterms for CS3110
- Grade homeworks, programming assignments for CS3110

Department of Computer Science and Engineering   *University of Minnesota, Twin Cities*

Teaching Assistant for CSCI 2011(Discrete Mathematics)   *Sep. 2018 - Dec. 2018*

- Construct and grade weekly quiz for CSCI2011
- Hold weekly office hours to answer students questions about lectures, homework and quizzes for CSCI 2011

Department of Computer Science and Engineering   *University of Minnesota, Twin Cities*

Teaching Assistant for CSCI 2033(Linear Algebra)   *Jan. 2019 - May. 2019*

- Grade weekly homework, midterms and final for CSCI2033
- Hold weekly office hours to answer students questions about lectures, homework and quizzes for CSCI 2033

Department of Computer Science and Engineering   *University of Minnesota,Twin Cities*

Undergraduate research assistant   *May. 2018 - Aug. 2018*

- appointed by professor Junaed Sattar as a paid undergraduate research assistant during summer 2018
- conducted the previously stated specific diver detection research project and helped conduct several pool trials and lake trials during summer

School of Mathematics   *University of Minnesota,Twin Cities*

Grader for Math 2263(Mutlivariable Calculus)   *Jun. 2017 - Aug. 2017*

- Helped grade weekly quizzes and homework for Math 2263.
- Helped maintain students' records about quizzes,midterm, finals and homework for Math 2263

Honors & Awards

May 2019 **RAS Travel Grant**, A reward offered to participants of ICRA2019   *Robotics and Automation Society*

2015-2018 **Dean's list**, A reward offered to students with semester GPA 3.666 or higher   *University of Minnesota*

2015-2019 **Global Excellence scholarship**, A reward offered to excellent incoming students   *University of Minnesota*

Skills

Programming	Python, JAVA, OCaml, Matlab,LaTeX,C++,MySQL,C,Lisp,Julia
Computer Vision	Opencv
Machine Learning	Tensorflow, Pytorch, Caffe
Robotics System	Robotics Operating System
Natural Language Processing	Gensim,spaCy
Reinforcement learning	Gym

Publication

Visual Diver Recognition for Underwater Human-Robot Collaboration   *https://arxiv.org/abs/1809.10201*

Youya Xia, Junaed Sattar   *Sep.2018*

- Accepted by the IEEE International Conference on Robotics and Automation, ICRA2019. arXiv preprint available.

Fast Underwater Image Enhancement for Improved Visual Perception   *https://arxiv.org/abs/1903.09766*

Md Jahidul Islam, Youya Xia, Junaed Sattar   *Feb.2020*

- Accepted by Robotics and Automation Letters. arXiv preprint available.

Visual Diver Recognition for Underwater Human-Robot Collaboration   *https://arxiv.org/abs/1809.10201*

Youya Xia, Junaed Sattar   *Sep.2018*

- Accepted by the IEEE International Conference on Robotics and Automation, ICRA2019. arXiv preprint available.