

Biao Jia

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EDUCATION

UNC at Chapel Hill

Computer Science Department
PhD Candidate
Expected Grad. May 2021
Advised by Dinesh Manocha

Tsinghua University

Computer Science and Technology
Department
BS in Computer Science
Grad. Jul 2014

SKILLS

Languages:

Python, C++, Java, Go, Matlab

Frameworks:

OpenCV, Tensorflow, ROS,
Tesseract, skLearn

Tools:

Git, Vim

COURSEWORK

Deep Neural Network
3D Computer Vision
Motion Planning
Computer Graphics
Natural Language Processing
Parallel Computing

RESEARCH INTERESTS

Motion Planning
Machine Learning
Computer Vision
Natural Language Processing

02.21.2018

EXPERIENCE

University of North Carolina at Chapel Hill

Research Assistant

Aug 2016 – present

Chapel Hill, NC

- Researched on the multi-agent motion planning with arbitrarily-shaped obstacles.
- Human intention prediction based motion planning for robots.

City University of Hong Kong, MBE

Research Assistant

Jun 2017 – Aug 2017

Hong Kong

- Built a application for learning manipulation of highly deformable objects like cloth using ABB YuMi.

Landscape Mobile Tech Co.,Ltd.

Algorithm Engineer

Jun 2014 – May 2015

Beijing, China

- Designed algorithms for two iOS apps: Sight and Screenshots.
- Built a mobile application classifier using image features.
- Built an OCR system for screenshots based on tesseract.

PROJECTS

Manipulating Highly Deformable Materials Using a Visual Feedback Dictionary

first author, ICRA 2018 accepted

arxiv <https://arxiv.org/abs/1710.06947>

video <https://www.youtube.com/watch?v=AVNZy05KrPc>

Generating Realtime Motion Plans from Attribute-Based Natural Language Instructions Using Dynamic Constraint Mapping

<https://arxiv.org/abs/1707.02387>

submitted to ICRA 2018

We present an algorithm for combining NLP and realtime robot motion planning to automatically generate safe robot movements.

Resolution-Complete Multi-agent Motion Planning with Arbitrarily-Shaped Obstacles

submitted to AAAI 2017

We highlight its performance on challenging 2D benchmarks and highlight the benefits over prior methods.

Pedestrian Segmentation after Detection

Diploma Project, 2014

A computing-efficient method to compute the segmentation using superpixel segmentation, probabilistic model and sparse coding.