Hejia Zhang

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https://hejiazhang.me

Education

University of Southern California *Los Angeles, USA*
Ph.D. in Computer Science *01/2020 – Present*
Advisor: Prof. Stefanos Nikolaidis

M.S. in Computer Science *01/2018 – 12/2019*
Advisor: Prof. Gaurav Sukhatme & Prof. Stefanos Nikolaidis

Zhejiang University *Hangzhou, China*
B.E. in Bioengineering *09/2013 – 07/2017*
Advisor: Prof. Hui Fang

Awards

Qualcomm Innovation Fellowship Abstract Selection *2020*
NeurIPS Travel Award *2019*
Viterbi Best Research Award, USC *2019*
Class III Scholarship for Academic Excellence, ZJU *2015-2016*
Class II Scholarship for Academic Excellence, ZJU *2013-2014*

Teaching

Robotics (CSCI 545), University of Southern California. *Fall 2020*
Teaching Assistant

Introduction to Artificial Intelligence (CSCI 360), University of Southern California. *Spring 2020*
Teaching Assistant

Services

Reviewer: IROS, ICRA, HRI, NeurIPS (Demo Track).

Media Coverage

Robotic Hair Brushing: Fortune.

Outreach

USC Viterbi Summer High School Intensive in Next-Generation Engineering (SHINE) program
Summer 2020
Research Mentor

Demos

Robotic Hair Brushing: The robot uses a camera to create a 3-D map of the back of a person's head and hair and then brushes the hair through a constrained motion (NeurIPS 2019).

Publications

Preprints

[P1] **Hejia Zhang** and Stefanos Nikolaidis. **Robot Learning and Execution of Collaborative Manipulation Plans from YouTube Cooking Videos**. *In ArXiv.*

Journal Articals

[J2] Ryan Julian, Eric Heiden, Zhangpeng He, **Hejia Zhang**, Stefan Schaal, Joseph J. Lim, Gaurav S. Sukhatme, Karol Hausman. **Scaling Simulation-to-Real Transfer by Learning a Latent Space of Robot Skills**. *International Journal of Robotics Research (IJRR).*

[J1] Chaoyang Zhu, Kejie Huang, Shuyuan Yang, Ziqi Zhu, **Hejia Zhang**, Haibin Shen. **An Efficient Hardware Accelerator for Structured Sparse Convolutional Neural Networks on FPGAs**. *IEEE Transactions on Very Large Scale Integration Systems (TVLSI).*

Refereed Conference Publications

[C3] **Hejia Zhang**[1], Matthew Fontaine[1], Amy Hoover, Julian Togelius, Bistra Dilkina, Stefanos Nikolaidis. Video Game Level Repair via Mixed Integer Linear Programming. *In The 16th AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE-20)*, 2020. (Oral Presentation; 25% acceptance rate)

[C2] **Hejia Zhang**, Po-Jen Lai, Sayan Paul, Suraj Kothawade and Stefanos Nikolaidis. **Learning Collaborative Action Plans from Unlabeled Youtube Videos**. *In International Symposium on Robotics Research (ISRR)*, 2019.

[C1] Ryan Julian[1], Eric Heiden[1], Zhangpeng He, **Hejia Zhang**, Stefan Schaal, Joseph J. Lim, Gaurav S. Sukhatme, Karol Hausman. **Scaling simulation-to-real transfer by learning composable robot skills**. *Presented at International Symposium on Experimental Robotics (ISER)*, 2018.

Refereed Workshop Publications and Abstracts

[W3] **Hejia Zhang** and Stefanos Nikolaidis. **Robot Learning Collaborative Manipulation Plans from YouTube Cooking Videos**. *In R:SS Workshop on Emergent Behaviors in Human-Robot Systems*, 2020.

[W2] **Hejia Zhang**, Eric Heiden, Stefanos Nikolaidis, Joseph J. Lim, and Gaurav S. Sukhatme. **Auto-conditioned Recurrent Mixture Density Networks for Learning Generalizable Robotic Manipulation Skills**. *In Southern California Robotics Symposium (SCR)*, 2019.

[W1] Zhanpeng He[1], Ryan Julian[1], Eric Heiden, **Hejia Zhang**, Stefan Schaal, Joseph J. Lim, Gaurav S. Sukhatme, Karol Hausman. **Simulator Predictive Control: Using Learned Task Representations and MPC for Zero-Shot Generalization and Sequencing**. *Presented at Conference on Neural Information Processing System 2018 Deep Reinforcement Learning Workshop.*

Technical Reports

[T2] Eric Heiden[1], David Millard[1], **Hejia Zhang** and Gaurav S. Sukhatme. **Interactive Differentiable Simulation**. *In ArXiv.*

[T1] **Hejia Zhang**, Eric Heiden, Stefanos Nikolaidis, Joseph J. Lim, and Gaurav S. Sukhatme. **Auto-conditioned Recurrent Mixture Density Networks for Learning Generalizable Robot Skills**. *In ArXiv.*

[1]Equal contribution