

# YUDA FAN

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## EDUCATION

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**Shanghai Jiao Tong University**

Sep. 2016 - Jun. 2020

*Bachelor of Engineering in Computer Science*

GPA: 3.92/4.30, 90.3/100 (Rank 6/38)

ACM Honor Class is an elite CS program for top 5% students at SJTU

**ETH Zürich**

Aug. 2021 -

*Ph.D. in Computer Science*

- Direct Doctorate Program in Computer Science

## RESEARCH EXPERIENCE

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**MVIG, Shanghai Jiao Tong University**

Jul. 2018 - Jun. 2020

*Research Assistant to Prof. Cewu Lu*

*Shanghai, China*

- **CyberPanda: A Universal Robotic Arm Simulator Towards Photorealistic Visual Perception:** Propose a novel universal robotic arm simulator with photorealistic visual feedback. Integrate the remote procedure call system, rendering pipeline and physics engine in the platform. Empower users to construct scene, collect data and conduct simulation. *Undergraduate Thesis*
- **3D Real Embodied Dataset and Transferable Active Grasping:** Proposed a large-scale dataset in cluttered scenes for grasping task. Adopted a novel reinforcement learning algorithm and 3D vision architectures to conduct viewpoint optimization. *ICRA 2020*

**Meituan - Sankuai Technology Co., Ltd.**

Jul. 2020 - Feb. 2021

*Research Assistant to Prof. Junchi Yan*

*Beijing, China*

- **AutoVision:** A platform to automatically conduct neural architecture search, model compression and hyperparameters optimization.
- **Memory-Efficient Neural Architecture Search:** Propose a training scheme to eliminate the performance collapse in memory-efficient fashion. Paper submitted to CVPR 2021. *Awarded with the core patent of the highest level in 2020 Q4.*

**Institute for Advanced Study**

Feb. 2021 - Present

*Research Assistant to Dr. Zhao Song*

*Princeton, New Jersey*

- **Sparse Linear System Solver:** Adopt block Krylov method via recursive low displacement rank factorizations to get a linear system solver faster than matrix multiplication.

## PUBLICATIONS

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Xiangyu Chen\*, Zelin Ye\*, Jiankai Sun, **Yuda Fan**, Fang Hu, Chenxi Wang, and Cewu Lu, *Transferable Active Grasping and Real Embodied Dataset, ICRA 2020.*

Xiaoxing Wang\*, Xiangxiang Chu\*, **Yuda Fan**, Zhexi Zhang, Xiaolin Wei, Junchi Yan and Xiaokang Yang, *ROME: Robustifying Memory-Efficient NAS via Topology Disentanglement and Gradients Accumulation, arxiv preprint.*

## SELECTED INTERESTING PROJECTS

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### **CS492: Reinforcement Learning**

*Prof. Zhihua Zhang*

Jun. 2019

*Shanghai, China*

- **Fight with Landlord:** Combine hand decomposition module and Hierarchy Reinforcement Learning to learn the subgoals of card games.
- 95/100, Rank:2/67.

### **MS208: Compiler Design and Implementation**

*Dr. Rong Ma*

Jun. 2018

*Shanghai, China*

- **Mx\* Compiler:** Designed a compiler implemented in Java from scratch, translating **Mx\*** code into x64-nasm code.
- Implemented optimizations for the compiler, faster than gcc O1 on test set.
- 97/100, Rank: 4/41.

### **MS110: Operating System**

*Prof. Alei Liang*

Jun. 2018

*Shanghai, China*

- NachOS: Implemented the kernel of a UNIX operating system, including threads, file system, network, virtual memory, etc.
- 96/100, Rank: 8/41.

## AWARDS & HONORS & NOMINATION

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**Outstanding Graduate of Shanghai Jiao Tong University** *Jul. 2020, SJTU*

**2016-2018 The First Prize Scholarship** *2016-2018, SJTU*

**Problem Setter of CCF NOI 2019** *Jun. 2019, Beijing*

**Problem Setter of CCPC 2018 Jilin Regional Contest** *Sep. 2018, Jilin*

**2017 Rong Chang Scholarship:** Top 0.02% of Shanghai Jiao Tong University *Oct. 2017, SJTU*

**1st Runner Up, ACM-ICPC 2017-2018 Hua-Lien Regional Contest** *Nov. 2017, Taiwan*

**Gold Medal 19th place, ACM-ICPC 2017-2018 Asia ECL Final** *Dec. 2017, Shanghai*

**Gold Medal 6th place, ACM-ICPC 2017-2018 Xi'an Regional Contest** *Oct. 2017, Xi'an*

**Gold Medal 9th place, ACM-ICPC 2016-2017 Myanmar Regional Contest** *Dec. 2016, Yangon*

**Gold Medal 9th place, CCPC 2017 Hangzhou Regional Contest** *Nov. 2017, Hangzhou*

**Gold Medal 7th place, ACM-ICPC 2016-2017 Xi'an Invitation Contest** *May. 2017, Xi'an*

## TEACHING EXPERIENCE

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**Teaching Assistance**      **CS477 Combinatorics (Spring 2020)**

## PROFICIENT PROGRAMMING SKILLS

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**C++, C#, Python, Java, Lua**