

# YUDA FAN

Preferred Interview Language: C++

mistergalahad@gmail.com ◇ Homepage

## EDUCATION

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**Shanghai Jiao Tong University**

Sep. 2016 - Jun. 2020

*Bachelor of Engineering in Computer Science, ACM Honor Class*

GPA: 3.92/4.30, 90.3/100

**ETH Zürich**

Sep. 2021 -

*Master of Science, D-INFK*

Direct Doctorate Program in Computer Science

## RESEARCH EXPERIENCE

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**MVIG, Shanghai Jiao Tong University**

Jul. 2018 - Jun. 2020

*RA advised by Prof. Cewu Lu*

*Shanghai, China*

- **CyberPanda:** 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:** Improve the viewpoint optimization strategy to get a more reliable grasping algorithm with a better success rate. *ICRA 2020*

**Visiting Students, University of Illinois at Urbana-Champaign**

Sep. 2019 - Dec. 2019

*RA advised by Prof. Bin Hu*

*Urbana, IL*

- **Efficient Verification of Neural Networks:** Formulate the verification problem as a semi-definite programming scheme and resolve it with linear matrix inequality.

**Vision AI Department, Meituan**

Jul. 2020 - Feb. 2021

*Machine Learning Engineer*

*Beijing, China*

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

**CADMO, ETH Zürich**

Sep. 2021-

*RA advised by Prof. Emo Welzl*

*Zürich, Switzerland*

- **Unique Sink Orientation and USO Polytope:** Probe the combinatorial structure of all the USOs of the same cube, and characterize the symmetric difference map between any ordinary USO and the uniform USO. Figure all the affine transformations under which the USO polytope remain the same.
- **Hidden Points and Hidden Vertices in Class of Polygons:** Introduce novel techniques such as convex/reflex chains and continuous visibility graph, and find solutions for spiral polygons, funnel polygons, pseudo-triangles, fan-shaped polygons, and staircase polygons. Propose the first approximation scheme for hidden points in polygon with holes.

## RECENT PUBLICATIONS

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*Hidden Points and Hidden Vertices in Classes of Polygons*, **Yuda Fan**, *JCDCGGG 2024*.

*ROME: Robustifying Memory-Efficient NAS via Topology Disentanglement and Gradients Accumulation*, Xiaoxing Wang\*, Xiangxiang Chu\*, **Yuda Fan**, Zhexi Zhang, Junchi Yan, *ICCV 2023*.

## AWARDS & HONORS

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Outstanding Graduate, Shanghai Jiao Tong University	<i>Jul. 2020</i>
Honor Degree Bachelor of Engineering, Zhiyuan College	<i>Jul. 2020</i>
Excellence Scholarship, ETH Zürich	<i>2021-2023</i>
The First Prize Scholarship at Shanghai Jiao Tong University	<i>2016-2019</i>
1st Runner Up, ACM-ICPC 2017-2018 Asia Pacific Regional Contest	<i>Nov. 2017</i>
1st Runner Up, ICPC 2021-2022 Swiss Subregional Individual Contest	<i>Nov. 2021</i>
Gold Medal 19th place, ACM-ICPC 2017-2018 Asia ECL Final	<i>Dec. 2017</i>
Gold Medal 6th place, ACM-ICPC 2017-2018 Xi'an Regional Contest	<i>Oct. 2017</i>
Gold Medal 9th place, ACM-ICPC 2016-2017 Myanmar Regional Contest	<i>Dec. 2016</i>
Gold Medal 9th place, CCPC 2017 Hangzhou Regional Contest	<i>Nov. 2017</i>
Gold Medal 7th place, ACM-ICPC 2016-2017 Xi'an Invitation Contest	<i>May. 2017</i>

## COMMUNITY SERVICE

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Problem Setter: CCF NOI 2019, CCPC 2018, ICPC Asia EC-Final 2021, 2024

Contest Coordinator: CCPC 2018, ICPC Swiss Subregional 2022, 2023

Reviewer: HPCC 2024, ICCV 2024, EuroCG 2023, 2024

## TEACHING EXPERIENCE

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Lecturer      CS477 Combinatorics (Spring 2020)

## PROGRAMMING PROFICIENCY

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Expert: Pascal

Efficient: C++, C, Python

Mediocre: Java