



# ZHUOFAN XIA | 夏卓凡

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## EDUCATION

**Ph.D. | Control Science and Engineering**

Tsinghua University, advised by Prof. Gao Huang and Prof. Shiji Song

Aug. 2020 – 2026 (Expected)

Beijing, China

**B.Eng. | Automation**

Tsinghua University

Aug. 2016 – June 2020

Beijing, China

- Thesis: *Forecasting Air Pollutant Concentration using Graph Neural Networks*
- Advised by Prof. Gao Huang and Prof. Shiji Song

## PUBLICATIONS

\*Equal Contribution. †Corresponding Author.

### Accepted Papers

**Efficient Diffusion Transformer with Step-wise Dynamic Attention Mediators**

ECCV 2024

Yifan Pu\*, Zhuofan Xia\*, Jiayi Guo\*, Dongchen Han, Qixiu Li, Duo Li, Yuhui Yuan, Ji Li, Yizeng Han, Shiji Song, Gao Huang†, Xiu Li†

**GSVA: Generalized Segmentation via Multimodal Large Language Models**

CVPR 2024

Zhuofan Xia\*, Dongchen Han\*, Yizeng Han, Xuran Pan, Shiji Song, Gao Huang†

**Budgeted Training for Vision Transformer**

ICLR 2023

Zhuofan Xia\*, Xuran Pan\*, Xuan Jin\*, Yuan He, Hui Xue, Shiji Song, Gao Huang†

**Vision Transformer with Deformable Attention**

CVPR 2022

Zhuofan Xia\*, Xuran Pan\*, Shiji Song, Li Erran Li, Gao Huang†

**Best Paper Finalists, 0.4%**

**3D Object Detection with Pointformer**

CVPR 2021

Xuran Pan\*, Zhuofan Xia\*, Shiji Song, Li Erran Li, Gao Huang†

**Slide-Transformer: Hierarchical Vision Transformer with Local Self-Attention**

CVPR 2023

Xuran Pan\*, Tianzhu Ye\*, Zhuofan Xia, Shiji Song, Gao Huang†

**Adaptive Rotated Convolution for Rotated Object Detection**

ICCV 2023

Yifan Pu\*, Yiru Wang\*, Zhuofan Xia, Yizeng Han, Yulin Wang, Weihao Gan, Zidong Wang, Shiji Song, Gao Huang†

**Agent Attention: On the Integration of Softmax and Linear Attention**

ECCV 2024

Dongchen Han\*, Tianzhu Ye\*, Yizeng Han, Zhuofan Xia, Shiji Song, Gao Huang†

### In Submission

**DAT++: Spatially Dynamic Vision Transformer with Deformable Attention**

Preprint

Zhuofan Xia, Xuran Pan, Shiji Song, Li Erran Li, Gao Huang†

- Extended journal version of *Vision Transformer with Deformable Attention*.

**Generalized Activation via Multivariate Projection**

Preprint

Jiayun Li, Yuxiao Cheng, Yiwen Lu, Zhuofan Xia, Yilin Mo†, Gao Huang

**Demystify Mamba in Vision: A Linear Attention Perspective**

Preprint

Dongchen Han, Ziyi Wang, Zhuofan Xia, Yizeng Han, Yifan Pu, Chunjiang Ge, Jun Song, Shiji Song, Bo Zheng, Gao Huang†

## INTERNSHIPS

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<b>Research Intern</b> NIO Inc.	Aug. 2024 – Now Beijing, China
<b>Research Intern</b> Tencent	July 2024 – Aug. 2024 Shenzhen, China
<b>Research Intern</b> Alibaba Inc.	July 2021 – Apr. 2023 Beijing, China
<ul style="list-style-type: none"><li>• Worked on dynamic neural network mechanism on Vision Transformers, paper accepted to ICLR 2023.</li></ul>	
<b>Research Intern</b> SenseTime Inc.	July 2019 – Dec. 2019 Beijing, China
<ul style="list-style-type: none"><li>• Developed several strategies of data augmentation for document table recognition.</li></ul>	

## HONORS AND AWARDS

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<b><i>Friend of Tsinghua – Ubiquant Scholarship of Tsinghua University</i></b> Comprehensive excellence	Fall 2023
<b><i>Friend of Tsinghua – Hefei Talent Scholarship of Tsinghua University</i></b> Comprehensive excellence	Fall 2022
<b><i>Friend of Tsinghua – Samsung Scholarship of Tsinghua University</i></b> Comprehensive excellence	Fall 2021
<b><i>Friend of Tsinghua – Evergrand Scholarship of Tsinghua University</i></b> Academic excellence	Fall 2019
<b>Outstanding Social Work Scholarship of Tsinghua University</b> Outstanding social work	Fall 2019
<b><i>Friend of Tsinghua – ZhangRonghua Scholarship of Tsinghua University</i></b> Academic excellence	Fall 2018
<b>Outstanding Social Work Scholarship of Tsinghua University</b> Outstanding social work	Fall 2018
<b>Academic Excellence Scholarship of Tsinghua University</b> Academic excellence	Fall 2017

## TEACHING ASSISTANT EXPERIENCE

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<b><i>Modeling and Optimization of Complex Networked Systems</i></b> Instructor: Prof. Shiji Song and Prof. Gao Huang	80250463 Tsinghua University
<ul style="list-style-type: none"><li>• Nonlinear optimization algorithms and network optimization algorithms.</li><li>• Worked as TA in 2021 Fall, 2022 Fall, 2023 Fall.</li></ul>	

## SKILLS

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- **Languages:** Chinese (Native), English
- **Programming:** C/C++, C#, Python, MATLAB
- **Deep Learning Toolkits:** TensorFlow, PyTorch, Caffe
- **Document Creation:** Microsoft Office Suite,  $\text{\LaTeX}$ , Markdown