

## EDUCATION

**Nanyang Technological University (NTU) (Fully Funded)** Aug 2018 – **May 2022** (Expected)

- Bachelor of Engineering (Electrical and Electronic Engineering); Minor Study: Mathematics
- **Honours (Highest Distinction)** (Expected), current CGPA: 4.90 / 5.00
- **Dean's List Student Award**, NTU (**top 5%**) 2019 - 2020, 2020 - 2021
- Relevant Modules: (1) *Introduction to Data Science & Artificial Intelligence* (2) *Computer Communications* (3) *Data Structure and Algorithms* (4) *Introduction to Operating Systems*

**Overseas Summer Session Program, University of California, Los Angeles** Jun 2019 – Aug 2019

- Gained new perspectives and insights into America economic issues through discussions in class

## PUBLICATION

- **Boxiang Wang\***, Qifan Xu\*, Zhengda Bian and Yang You. Tesseract: Parallelize the tensor parallelism efficiently. *arXiv preprint arXiv:2005.14500* [[link](#)]
- Zhengda Bian\*, Qifan Xu\*, **Boxiang Wang** and Yang You. Cubework: An Efficient Model Parallelism Framework for Training Huge Neural Networks. *arXiv preprint arXiv:2105.14450* [[link](#)]

## ACADEMIC & MODULE PROJECT / RESEARCH EXPERIENCE

**National University of Singapore** May 2021 – Present

Research Assistant to Prof. Yang You

- Design novel tensor parallelism structures for deep learning neural networks to reduce the memory allocated to single processor and to increase the efficiency
- Reach a speedup of 1.5X compared to state-of-the-art tensor parallelism structure
- Design an integrated large-scale model training framework with efficient parallelization techniques
- Contribute 25k lines of codes in the model training framework on GitHub

NTU Final Year Project (FYP) Aug 2021 – Present

FYP Project: ***Unsupervised Domain Adaptation for Object Recognition***

Supervised by Prof. Tan Yap Peng

- Investigate technologies used in the area of unsupervised domain adaptation
- Propose a new loss function to improve the performance
- Apply the state-of-the-art unsupervised domain adaptation method in the area of person re-id to the area of object recognition

NTU EEE Design & Innovation Project (DIP) Aug 2020 – Dec 2020

DIP Project: ***Detection of Non-human Faces***

Supervised by Assoc. Prof. P. N. Suganthan

- Created a deep learning model with deep learning structures to do classification and regression Artificial Intelligence tasks in the area of Computer Vision
- Deployed EfficientNet and ResNet with *TensorFlow* to reach an 98% accuracy of classification task
- As team leader, managed to develop a model with top performance among all the participants of the project

NTU Undergraduate Research Experience on Campus (URECA) Aug 2019 – May 2020

URECA Project: ***Design a Virtual Reality Game using Artificial Intelligence***

Supervised by Assoc. Prof. Lin Feng

- Developed a system to help patients with bone problem for rehabilitation
- Promoted virtual reality usage by creating interesting game based on Unity and *C# Programming*
- Implemented Inverse Kinetic method in the game to make the AI opponent perform naturally

## INTERNSHIP

**Huawei International Pte Ltd, *Intern Researcher on AI Security*** Jan 2021 – Aug 2021

- First introduced the third class of Membership Inference Attack with Facial Recognition task and Transfer Learning
- Managed to develop current Membership Inference Attack with higher accuracy

- Implement Membership Inference Attack on language dataset and implement Membership Inference Attack with Graph Neural Network

## **AWARDS & ACHIEVEMENTS**

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- Science and Technology Undergraduate Scholarship, NTU Aug 2017 – Present

## **RESEARCH INTERESTS**

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- **Machine Learning:** Deep Learning, Computer Vision, Systems for Machine Learning
- **High Performance Computing:** Distributed Systems, Parallel Computing

## **SKILLS**

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- **General:** C / C++, MATLAB, Java, HTML, JavaScript, SLURM
- **Tools:** PyTorch, TensorFlow