# YAN PAN

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## EDUCATION

**Carnegie Mellon University** Aug 2019 – May 2023
B.S. in Computer Science *Pittsburgh, PA*
Concentration in Machine Learning & Minor in Mathematics

**Tsinghua University** Feb 2021 – Jun 2021
Host Institution Program *Beijing, China*

## RESEARCH INTEREST

**Machine Learning:** Deep Learning, Reinforcement Learning, Multimodal Learning.
**Theory:** Learning Theory, Non-Convex Optimization, Online Optimization.

## RESEARCH EXPERIENCE

**Carnegie Mellon University MultiComp Lab** Jan 2021 – Present
Undergraduate Research Assistant *Pittsburgh, PA*

- Advisors: Louis-Philippe Morency, Paul Liang.
- Researched multimodal machine learning for multimodal social interations. Experimented with state-of-the-art language models, visual-linguistic models, and multimodal attention mechanisms on egocentric datasets. Working on integrating reinforcement learning and world models to increase interactivity.
- Documents: SURF Proposal

**Peking University Institute of Remote Sensing and GIS** Jun 2018 – Dec 2018
High School Researcher *Beijing, China*

- Researched deep learning methods for geographical big data.

## HONORS & AWARDS

- CMU Summer Undergraduate Research Fellowship (SURF): 2021
- CMU School of Computer Science Dean's List, High Honors: 2019 – 2021
- Global Finalist, Shing-Tung Yau High School Science Award – Computer Award: 2018
- Finalist, International Mathematical Modeling Challenge (IMMC) International Contest: 2018
- Outstanding, International Mathematical Modeling Challenge (IMMC) China Contest: 2018
- First Prize, DengFeng Cup National High School Academic Contest – Data Mining: 2017

## TEACHING EXPERIENCE

**High School Affiliated to Renmin University of China**
*Co-Instructor of Elective Course*

- Mathematical Modeling and Application Spring 2019
  *Topics: Optimization, graph theory, differential equations, clustering, basic machine learning.*

## SELECTED COURSEWORK

**Carnegie Mellon University**

- Convex Optimization *(PhD)*
- Introduction to Machine Learning *(PhD)*
- Great Ideas in Theoretical Computer Science
- Computer Vision
- Computer Graphics

- Parallel & Sequential Data Structures and Algorithms
- Introduction to Computer Systems
- Probability
- Principles of Real Analysis I

**Other Institute & Audit**

- Formal Languages and Automata *(Tsinghua University)*
- Machine Learning *(Coursera)*

## SKILLS

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|---|---|
| **Programming Languages** | Python, C++, C, MATLAB, Standard ML, Haskell, Java |
| **Platforms** | PyTorch, TensorFlow, Keras, Scikit-Learn, OpenCV, OpenGL |
| **Software Tools** | LaTeX, Git, Vim |
| **Natural Languages** | English (Proficient), Mandarin Chinese (Native) |