# Yingtian Tang

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## Education Background

**University of Pennsylvania** **Philadelphia, USA**

*- Master of Science in Engineering in Computer and Information Science* *09/2021 -- present*

- **Overall GPA: 4.00 / 4.00**
- **Featured Courses:** Foundation of Deep Learning; Convex Optimization; Theory of Machine Learning; Theoretical Neuroscience; Machine Perception; Hardware-Software Co-design for Machine Learning.

**University of Electronic Science and Technology of China (UESTC, 985&211)** **Chengdu, China**

*- Enrolled in Yingcai Honors College (Only Top 100 students are enrolled)* *09/2016 -- 06/2020*

- Bachelor of Engineering in Computer Science and Technology
- **Overall GPA: 3.89 / 4.00**

**University of Pennsylvania** **Philadelphia, USA**

*- Study Abroad Program* *09/2018 -- 01/2019*

- **Overall GPA: 4.00 / 4.00**

## Research Interests

- Machine Learning, Deep Learning, Artificial Intelligence
- Active Perception, Computer Vision

## Publications

- Tang, Y., Liu, J., Zhou, C., & Li, T. (2022). Online Motion Style Transfer for Interactive Character Control. *arXiv preprint* arXiv:2203.16393.
- Li, R., Tang, Y., Shi, Q., Mao, H., Chen, L., Jin, J., ... & Cheng, Z. (2022, March). Accurate probabilistic miss ratio curve approximation for adaptive cache allocation in block storage systems. In *2022 Design, Automation & Test in Europe Conference & Exhibition (DATE)* (pp. 1197-1202).
- Yingtian Tang, Han Lu, Xijun Li, Lei Chen, Mingxuan Yuan and Jia Zeng, "Learning-Aided Heuristics Design for Storage System", *The 2021 ACM SIGMOD/PODS International Conference on Management of Data*.
- Lin Shan, Fu Long Tan, Chen Hongyu, Kuan Yang Tang, Yingtian Tang, Nemath Ahmed, and Alex C. Kot. "Visual Analytic System for Pandemic Management During COVID-19". Winner of the *IEEE 5-Minute Video Clip Contest (5-MICC), IEEE Signal Processing Magazine* (vol. 38, pp. 138-140).
- Yingtian Tang, Yong Deng. "Time series prediction based on visibility graph with node similarity and slope". In *International Journal of Computers Communications & Control*.

## Research Experience

### GRASP Lab, UPenn
05/2022 -- present

*- Active Scene Understanding | Supervised by Prof. Pratik Chaudhari*

- Study how action facilitates perception: how objects could arise from active unsupervised learning.
- Experiment in a 2D environment: use temporal slowness as a principle for unsupervised learning on the input sensory stream, while learn actions for generating the input stream. The learned system is able to discriminate between objects.

### Robotics X, Tencent
02/2021 -- 08/2021

*- ML for Character Motion Stylization in Games | Supervised by Dr. LI Tingguang*

- Developed models for character motion generation with different styles. The models can generate online style transition and style interpolation.
- Studied the application of sequential models on motion generation tasks. The developed model avoids the problem of strong temporal dependency.
- Drafted a tutorial about motion stylization, covering paired and unpaired motion datasets, as well as online and offline stylization applications.

### Noah's Ark Lab, Huawei
07/2020 -- 02/2021

*- ML for Storage Workload Analysis, Research Intern | Supervised by Prof. ZENG Jia*

- Analyzed I/O workloads and modeled the short-term/long-term workloads with a bi-level schema
- Designed an improved Hidden Markov Model-based approach for fast I/O trace regeneration
- Applied the deep reinforcement learning on the optimization of CPU utilization and energy usage. **This work has been submitted to *ACM SGIMOD 2021***.

### Rapid-Rich Object Search (ROSE) Lab, Nanyang Technological University
09/2019 -- 03/2020

*- Human Re-identification, Research Intern | Supervised by Prof. Kot Chichung, Alex*

*- Link to the project:* [*https://rose.ntu.edu.sg/research/DeepLearningVideoAnalytics/Pages/personreid.aspx*]

- Designed a new algorithm to improve human re-identification in cross-domain applications
- Co-developed a real-time person re-id system, which was used for safety surveillance in NTU campus and geo-fencing in hospitals
- Developed an online annotation website for data collection and processing
- The research outputs have been applied to fight Covid-19 at the Security Operation Center in the Changi Exhibition Center in Singapore
- The trailer of our system "Visual Analytic System for Pandemic Management during COVID-19" has been selected **as the winner for the 5-Minute Video Clip Contest at *IEEE ICIP 2020***

### Brain & Intelligence Lab, UESTC
03/2017 -- 06/2019

*- School of Computer Science and Engineering, UESTC | Supervised by Prof. Shi Gu*

- Analyzed fMRI data and generated brain networks via machine learning techniques

- Improved the functional connectivity by modeling the zero-delay auto-correlation of the noise
- Achieved gender classification by utilizing graph neural networks

**The Property and Application of Complex Networks, UESTC** 09/2017 -- 06/2019

*- Institution of Fundamental and Frontier Sciences, UESTC | Supervised by Prof. Yong Deng*

- Analyzed brain networks as complex networks and identified important nodes and structures
- Proposed a new method for predicting time series using visibility graph with improved performance. **This work has been accepted by *International Journal of Computers Communications & Control***

## Professional Skills

English: **TOEFL:** 111 | **GRE:** 333+3.5

Programming: **Python** (Professional) | **Java** (Familiar) | **C / C++** (Familiar)

## Honors & Awards

- Model Scholarships, by Yingcai Honors College of UESTC, 09/2017 & 09/2019
- 3rd Prize of Mathematical Modeling Competition, by UESTC, 03/2018
- China College Students' Entrepreneurship Competition Excellence Award, 04/2018
- Excellent Student Award, by the School of Computer Science and Engineering, UESTC, 01/2019