

Yijun Yuan

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Education

Sept. 2018 – Present **M.E., Computer Science and Technology, School of Information Science and Technology, ShanghaiTech University, China.**

Sept. 2014 – Jun. 2018 **B.E., Computer Science and Technology, School of Information Science and Technology, ShanghaiTech University, China.**

Visiting

Oct. 2019 - Dec. 2019 **Andreas Nüchter's Group, Julius Maximilian University of Würzburg.**

Employment

Feb. 2019 – May. 2019 **Computer Vision Engineer Intern, Nullmax Inc.**

Experience

Teaching

Spring 2018 **Teaching Assistant, Computer Architecture I.**

Research

Fall 2016 - Aug. 2017 **Computer Vision (1. Coarse-to-fine Retina Vessel Segmentation via Deep Neural Network, 2. Crowd Counting).**



Sept. 2017 - Aug. 2018 **Mapping, Robotics (1. Automatic Generation of Hierarchical Area Topology Representations from 2D Grid Maps (Bachelor's Thesis), 2. Fast Gaussian Process Occupancy Mapping (ICARCV2018), 3. Incrementally building topology graphs via distance maps (RCAR2019), 4. Topological Area Graph Generation and its Application to Path Planning (ICAR2019).)**

May. 2018 - Nov. 2018 **Machine Learning (1. Deep Kernel Learning with Randomized Sketches, 2. CBCT Calibration).**

Oct. 2018 - Jan. 2019 **Robot Arm (Use RL/IL on Arms with Vrep simulator and openAI RL baseline).**

Feb. 2019 - May. 2019 **Computer Vision (FCN-based Descriptor for Planar Object Tracking)**

Experience (continued)

- Feb. 2019 - Sept. 2019  **Planning, Rescue Robotics** (Configuration-Space Flipper Planning for Rescue Robots (SSRR2019); Configuration-space flipper planning on 3D terrains)
- May. 2019 - present  **Computer Vision** (Point cloud representation for 3D registration)







Research Publications

- 1 Yuan, Y., Xu, Q. & Schwertfeger, S. (2019). Configuration-space flipper planning on 3d terrain. *arXiv preprint arXiv:1909.07612*.
- 2 Hou, J., Yuan, Y. & Schwertfeger, S. (2019). Area graph: Generation of topological maps using the voronoi diagram. In *2019 IEEE International Conference on Advanced Robotics (ICAR)* (to be published). IEEE.
- 3 Yuan, Y., Wang, L. & Schwertfeger, S. (2019). Configuration-space flipper planning for rescue robots. In *2019 IEEE International Symposium on Safety, Security, and Rescue Robotics (SSRR)* (pp. 36–42). IEEE.
- 4 Yuan, Y. & Schwertfeger, S. (2019). Incrementally building topology graphs via distance maps. In *2019 IEEE International Conference on Real-Time Computing and Robotics (RCAR)* (to be published). IEEE.
- 5 Yuan, Y., Kuang, H. & Schwertfeger, S. (2018). Fast gaussian process occupancy maps. In *2018 15th International Conference on Control, Automation, Robotics and Vision (ICARCV)* (pp. 1502–1507). IEEE.

Awards

- 2016  **Dean's Scholarship** ShanghaiTech University.
- 2017  **Excellent Scholarship**, ShanghaiTech University.
- 2018  **Fan's Favorite Prize, NO.4 in total score, Best on HPCG and Tensorflow**, ISC 2018 high performance competition, Frankfurt, Germany.
- 2019  **DAAD-Short Term Scholarship**

Skills

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|---------------------|---|
| Professional skills |  Robotics, Computer Vision (traditional and DL), Kernel Learning |
| Programming |  Python, C++, C, MATLAB, R |
| Software |  ROS, Gym, 3DTK |
| Simulator |  Vrep |
| Framework |  Tensorflow, Pytorch |
| Language |  English (fluent), Chinese (native) |