

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 ([report](#)), 2. Crowd Counting ([report](#))).
- 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, [paper&code](#)), 3. Incrementally building topology graphs via distance maps (RCAR2019, [paper&code](#)), 4. Topological Area Graph Generation and its Application to Path Planning (ICAR2019, [paper&code](#)).)
- May. 2018 - Nov. 2018 ■ **Machine Learning** (1. Deep Kernel Learning with Randomized Sketches ([report](#)), 2. CBCT Calibration).
- Oct. 2018 - Jan. 2019 ■ **Robot Arm** (Use RL/IL on Arms with Vrep simulator and openAI RL baseline).

Experience (continued)

- Feb. 2019 - May. 2019  **Computer Vision** (FCN-based Descriptor for Planar Object Tracking)
- Feb. 2019 - present  **Planning, Rescue Robotics** (1. Configuration-Space Flipper Planning for Rescue Robots (SSRR2019, [paper&code](#)); 2. Configuration-space flipper planning on 3D terrains ([preprint](#));)
- Oct. 2019 - Nov. 2019  **Localization, Rescue Robotics** (Improved VI-localization)
- May. 2019 - present  **3D Vision** (1. One-step Point Set Registration ([link](#));)







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

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