

# NENG QIAN

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## EDUCATION

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<b>RWTH Aachen University, Germany</b> Master of Science in Computer Science	<i>October 2017 - June 2020(expected)</i> Grade: 1.3
<b>National TsingHua University, Taiwan</b> Exchange Student in Electrical Engineering.	<i>September 2015 - February 2016</i> Grade: 87/100.
<b>Beijing Institute of Technology, China</b> Bachelor of Engineering in Electrical Engineering.	<i>September 2013 - June 2017</i> Grade: 88/100. Rank top 15%

## SKILLS

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<b>Programming</b>	C/C++, Python, OpenGL, OpenCV, Pytorch
<b>Tools</b>	Git, CMake, MeshLab, Blender, ROS

## EXPERIENCE

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**Master Thesis Student at Max Planck Institute for Informatics** May 2019 - Now  
*Hand Tracking and Reconstruction*

- Extended the MANO hand model to the appearance space. Non-rigid ICP is applied to register the MANO mesh with input hand scan mesh which contains hand texture. The appearance space is then modeled by PCA which is applied on a set of the texture atlas.
- Enabled the **first time** a novel photometric loss in hand reconstruction problem. A deep neural network was used as encoder to regress the parameters for the hand geometry and our hand appearance model. Pytorch3D was used as the differentiable renderer. Enabled the first time a method to reconstruct hand geometry and appearance from single RGB image at the same time.
- This work has been accepted by **ECCV 2020**.

**Student Assistant at Computer Vision Group, RWTH Aachen** May 2018 - April 2019  
*Mobile Robot Perception System*

- Built up a detection based 3D pedestrian tracking system in a mobile robot platform with ROS.
- Applied TensorRT FP16 model to accelerate the inference of YoloV3 network, which effectively increase its frame rate from 10 HZ to 20 HZ.
- The whole pipeline runs in the Nvidia Jetson Xavier embedded platform with a 15HZ frame rate.

## SELECTED PROJECTS

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**Particles based Fluid Simulation** C++, Eigen, OpenGL

- Implemented a particle-based fluid simulation system from scratch. Implemented the Marching Cube algorithm to off-line reconstruct fluid surface for visualization. Implemented a screen-based fluid surface render in OpenGL, which is able to reconstruct the fluid surface in real-time.

## RELATED COURSES

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Computer Vision, Pattern Recognition, Computer Graphic, Object-Oriented Software Construction, Designing Interactive Systems, Data Communication, Embedded System, Signal Processing.