Qiyu Dai

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Education

- **School of Software & Microelectronics, Peking University** — **Beijing, China**
  Master Student in Computer Technology — *09/2019 - present*
  - Research interests: image generation, semantic segmentation.
- **School of Power and Mechanical Engineering, Wuhan University** — **Wuhan, China**
  B.S. in Energy Chemical Engineering — *09/2015 - 07/2019*
  - Ranking first for consecutive three years. Excellent graduate award.
- **School of Computer Science, Wuhan University** — **Wuhan, China**
  Second B.S. in Computer Science — *02/2017 - 07/2019*
  - GPA 3.91/4.0, ranking top 5%. Research assistant.

Research Experience

- **NIS&P Lab, Wuhan University** — **Wuhan, China**
  Research Assistant — *10/2017 - 06/2019*
  - Worked on autonomous driving, semantic segmentation and co-saliency detection, supervised by Prof. Qin Zou.

Publications

Qin Zou, Hanwen Jiang, **Qiyu Dai**, Yuanhao Yue, Long Chen, and Qian Wang. "Robust Lane Detection From Continuous Driving Scenes Using Deep Neural Networks." *IEEE Transactions on Vehicular Technology*, 2019.

Selected Projects

- **GAN-based Automatic Iris Image Generation** — **Peking University**
  Machine learning course project — *05/2020 - 06/2020*
  - Focused on modeling iris image generation as supervised image-to-image translation, which introduced conditional constraints to perform attribute-controlled synthesis.
  - Built an end-to-end system based on pix2pix to handle interactive synthesis and mass-synthesis of iris data.
  - Proposed an efficient and fast semi-automatic method for pre-processing iris image data.
  - As the team leader, responsible for technology choices, system design, code implementation, etc., and was awarded the *Excellent AI Algorithm Team* by Microsoft Research Asia & ByteDance Expert Committee.
- **Lane Detection for Continuous Driving Scenes** — **NIS&P Lab, Wuhan University**
  Research project — *03/2018 - 11/2018*
  - Aimed at the problem that lane cannot be accurately detected in extremely-bad driving scenarios of shadow, road mask degradation and vehicle occlusion.
  - Proposed to investigate lane detection by using multiple frames of a continuous driving scene, and proposed a new hybrid deep architecture for seamlessly integrating the DRNN with DCNN in a semantic-segmentation manner.
  - Demonstrated that the proposed method outperforms the competing methods in lane detection, especially in handling challenging situations.
- **FUTURE CAMP 2018** — **TAL AI Lab**
  The talent training program — *08/2018*

- Participated in the bootcamp selected from more than 2,500 applicants (Top 8%).
- Designed a CTPN-based approach for handwritten Chinese text detection, and a 3D-ResNets-based module for video motion analysis, and won the *Excellent Project Award*.
- Built a complete end-to-end system for handwritten Chinese text detection and recognition to convert handwritten Chinese text in images into editable messages, after the camp, based on the project achievements above.

Skills

- **Languages:** Mandarin Chinese (Native), English (CET-6)
- **Programing Languages:** Python, C/C++
- **Tools:** PyTorch, TensorFlow2, OpenCV3, LaTeX

Awards and Honors

- **Excellent Graduate**, Wuhan University, 2019
- **The Beijing CM Scholarship**, Wuhan University, 2018
- **The Goaland Scholarship**, Wuhan University, 2017
- **Merit Student Award**, Wuhan University, 2017
- **The Cnhili Scholarship**, Wuhan University, 2016
- **The Relations Instruments Scholarship**, Wuhan University, 2016
- **Excellent Student Award**, Wuhan University, 2016, 2018
- **Excellent Student Scholarship**, Wuhan University 2016, 2017, 2018