JIUHONG XIAO

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EDUCATION

New York University Jan 2020 - Present
M.S. in Computer Science GPA: 4.0/4.0

University of Science and Technology Beijing Sep 2015 - Jun 2019
B.Eng. in Intelligence Science and Technology GPA: 3.65/4.0
- Honor: Excellent Award of Undergraduate Thesis, People's Scholarship.

EXPERIENCE

New York University May 2020 - Present
Research Assistant
• Developed a self-supervised learning model for object detection from multi-view images, researching on using an architectural energy based model to exploit unlabeled data.
• Implemented self-driving policy training based on vector maps generated from past driving data, reducing the cost of lane annotation and increasing the generalization of training for different lane layouts.

Intelligent Biomimetic Design Laboratory, Peking University Jun 2019 - Jan 2020
Research Assistant
• Implemented a fish pose estimation method fusing top-down and bottom-up paradigms, increasing by **7.9%** and **10.9%** mAP compared with classical methods using single paradigm.
• Developed a fish pose tracking system based on keypoint matching, reducing tracking error by **72.7%**.
• Built a robotic fish dataset with over **1300** annotated frames as the benchmark for robotic fish pose estimation and the foundation of fish group control.

AbleCloud, Beijing Jun 2018 - Aug 2018
Product Intern
• Participated in the development of mobile APP for smart lamp project, implementing schedule and monitor function by **Android Studio** and AbleCloud PaaS Platform.
• Compiled technical documents of car network APIs and provided technical support for users and developers.

PROJECTS

Autodetection: An End-to-end Autonomous Driving Detection System Jan 2020 - May 2020
Advisors: Yann LeCun, Alfredo Canziani.
- Won the **2nd** place of general ranking on roadmap prediction and object detection task.
- Built an end-to-end autonomous driving detection system to predict bird-view roadmap and objects from multi-view images without measurement of camera parameters.
- Improved model performance with feature pyramid network and self-supervised learning by **7.72%** mAP on roadmap and **14.35%** mAP on detection.

A Survey of Bayesian Methods for Deep Learning Jan 2020 - May 2020
Advisor: Joan Bruna.
- Surveyed recent works that apply principles of Bayesian inference to deep learning, and made note of notable applications of Bayesian deep learning.
- Implemented pytorch version of Bayesian methods like SGLD, Deep Ensembles and MCDropout.

TECHNICAL SKILLS

Programming C/C++, Java, Python, Matlab, SQL.
Platform/tools Opencv, Tensorflow, Keras, Pytorch, MySQL, Android Studio

PUBLICATIONS

Real-time Pose Estimation and Tracking of Multiple Fish-like Robots: A Marker-less Method using Deep Neural Networks — Under Review