Weijiang Xiong

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EDUCATION

Aalto University, Espoo, Finland 2020/09 - 2022/12 (expected)
Msc in Robotics and Autonomous Systems, Minor in Machine Learning

- Awarded **Full Aalto Scholarship** for Master's study
- GPA 4.86/5 (96 ECTS) with courses Computer Vision, Bayesian Data Analysis, Digital and Optimal Control, Deep Learning, Probabilistic Machine Learning, Programming Parallel Computers

Ecole Polytechnique Fédérale de Lausanne, EPFL 2021/09 - 2022/02
Exchange study with a focus on Computer Science and Machine Vision

- GPA 5.80/6 (31 ECTS) with courses Algorithms, Computer Networks and Visual Intelligence

Tongji University, Shanghai, China 2015/09 - 2020/07
Bachelor in Mechanical Engineering (Specialization: Mechatronics)

- GPA: 4.58/5.0 (equivalent to 90.8/100); Ranking: 3/114 (top **3%**)
- Granted the honor of **Excellent Graduate Student** in Shanghai (top **3%**)
- Seized the **Scholarship for Excellence** in three continuous academic years

PUBLICATION

[1] Changhong Fu, **Weijiang Xiong**, Fuling Lin, and Yufeng Yue. "*Surrounding-Aware Correlation Filter for UAV Tracking with Selective Spatial Regularization*." Signal Processing (2019): 107324. (**First student author**, CAS JCR **Q1**, **Top Journal**, 2018 IF = **4.086** [paper] [video] [code])

[2] **Weijiang Xiong**, Lorenzo Bertoni, Taylor Mordan, and Alexandre Alahi. "*Simple Yet Effective Action Recognition for Autonomous Driving*. In 11th Triennial Symposium on Transportation Analysis Conference (TRISTAN XI 2022)" ([paper] [slides] [video] [code])

PROJECT EXPERIENCES

Pose-based Action Recognition for Autonomous Driving 2021/09 - 2022/01
Semester Project at EPFL VITA Lab, Lausanne [Project Repo]

- Proposed a concise yet effective feedforward network to recognize basic human actions from body poses
- Developed a toolkit for multiple self-driving-related datasets, and verified the effectiveness of the method

Bayesian Deep Learning 2021/06 - 2021/08
Research Intern at Probabilistic Machine Learning Group, Aalto University [Project Repo]

- Augmented Linear and Conv layers with a flexible stochastic part based on Normalizing Flows
- Optimized the flow-based posterior with Variational Inference to model input uncertainty
- Improved calibration and accuracy of Feed-forward DNNs in Image Classification task

Visual Object Tracking for UAVs 2018/10 - 2020/06
Research Assistant in Vision4Robotics Group, Tongji University

- Dual Attention Fusion for Tracking, DAFT (Bachelor's Thesis)
  - Proposed an early-and-late fusion approach for correlation filter (CF) and siamese network (SiamNet)
  - Strengthened SiamNet with the response map of CF, cleansed the training data of CF with SiamNet
  - Obtained significant promotion in precision and robustness compared to the baseline trackers
- SASR Tracker for UAV (Paper published on *Signal Processing*)
  - Fused CNN-based features and hand-crafted features to provide diversified object descriptions
  - Enhanced the capability of the tracker by expanding the receptive field of the algorithm
  - Leveraged Alternating Direction Method of Multipliers for efficient tracker optimization

SKILLS

Programming	Python, Matlab, C++ (basic)	**Languages**	Chinese (native), English (C1), Deutsch (B1)
Libraries	PyTorch, Sklearn	**Dev Tools**	Linux, Git, Latex, SQL