Weijiang Xiong

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EDUCATION

Aalto University, Espoo, Finland 2020/09 - 2022/07
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 in Robotics and Machine Learning

- Awarded **Swiss-European Mobility Scholarship** during exchange study

Tongji University, Shanghai, China 2015/09 - 2020/07
Bsc 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] Changhong Fu, Yujie He, Fuling Lin, and **Weijiang Xiong**. "*Robust Multi-Kernelized Correlators for UAV Tracking with Adaptive Context Analysis and Dynamic Weighted Filters*." Neural Computing and Applications (2020): 1-17. (CAS JCR **Q2**)

PROJECT EXPERIENCES

Multimodal Inference in Bayesian Deep Learning 2021/06 - 2021/08
Research Assistant in Probabilistic Machine Learning Group, Aalto University

- 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

LiDAR-Based Object Detection for Autonomous Driving 2020/07 - 2020/08
Internship in Perception Algorithm at Hesai Technology, Shanghai

- Conducted literature survey on point cloud-based 3D detection and recent state-of-the-arts methods
- Exploited multi-frame fusion and Conv-LSTM for robust 3D object detection with temporal information

Visual Object Tracking for UAV 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 incorporating surrounding information
  - Leveraged Alternating Direction Method of Multipliers for efficient tracker optimization

SKILLS

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