

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

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