Dr. Yang Xiao

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Summary

Extensive (9 years) industrial work and research in multiple domains of automotive sensors including R&D of sensor perception, multi-modal sensor calibration software, automotive sensor signal processing, image segmentation, object detection and tracking, machine learning and automotive software validation on L4-AD vehicles. PhD in Electronic, Electrical and Computer Science Engineering with a focus on object perception of imaging automotive radar. Authored over 10 papers in the automotive sensor field.

Experience

Senior Software Engineer | ZF group, hybrid work in Utrecht, the Netherlands *Nov. 2022-current*

- Software development experience follows V-model and based on C++. Include requirements, architecture, detailed design, implementation, integration, onsite tests, analysis, maintenance and documentation of software system.
- R&D of radar perception and hybrid multi-modal automotive sensor calibration software products for various L-4 AD vehicle projects such as Rabus and Rivium: radar dynamic object tracking, radar objects classification, end-of-line calibration, online calibration and misalignment detection on automotive sensors. The industrialized radar perception product runs on the L4 AD vehicle which operate in both Germany and the Netherlands, and the calibration solutions achieved the high-accuracy calibration from production line to operation phase.
- Experiences and systematic training of industry-safety standards and software development guidelines (e.g. ISO26262, ISO21448, ASPICE and AUTOSAR). Daily work experience in a Scrum-based agile team.
- Theoretical knowledge and code implementation on algorithms of automotive sensor signal processing, image processing, image segmentation, geometric perception, machine learning, linear algebra and robust optimization.

Computing technology consultant | Huawei Belgium NV, Leuven, Belgium *June. 2022 - Oct. 2022*

- Technical insight of high-performance computing (HPC) technology and summarize the strategic value and opportunity to computing business.

Postdoc & Ph.D. researcher | University of Birmingham, UK *Oct. 2017 - Nov. 2022*

- Participate in multiple autonomous driving projects collaborated with industry in the fields of cognitive vehicles, high-resolution imaging automotive radar and THz-technology.
- Work on algorithms of end-to-end image segmentation, object detection, moving target tracking, image registration on high-resolution automotive radar images. Two full paper of IEEE Sensors Journal and four conference proceedings have been published or are under final review.
- Theoretical study and experimental verification on automotive radar signal propagation feature on vehicle infrastructures with the innovated low-THz frequency bands. Two full papers of IEEE Sensors Journal and one conference proceedings have been published or are under final review.
- Build the academic network. Oral presentations on more than five international radar conferences for eight times, and nominated as the best paper of Radar 2022 IET.

Education

University of Birmingham, UK *Oct 2017-May 2022*

Ph.D., Electronic, Electrical and Computer Science Engineering

Tianjin University, China *Sep 2014-Jan 2017*

Master of Engineering, Communication Engineering

Tianjin University, China *Sep 2010-Sep 2014*

Bachelor of Engineering, Communication Engineering (postgraduate recommendation)

Skills

Programming Languages	***Experienced:*** C++ | Python | Matlab ***Familiar:*** SQL | Simulink
Software Development	ROS | GIT | Conan | CMake | Agile Methodology | Linux | CI/CD tools
Research fields	Automotive sensor signal processing | Object perception | Sensor calibration Machine learning | Deep neural networks | THz-Technology
Languages	***Native:*** Chinese ***Fluent:*** English ***Beginner:*** Dutch

Select Publications - full list on Google Scholar Profile

- Yang Xiao, Liam Daniel, and Marina Gashinova. Image segmentation and region classification in automotive high-resolution radar imagery [J]. IEEE Sensors Journal 21 (5), 6698-6711, 2021.
- Yang Xiao, Fatemeh Norouzian, Edward Hoare. Modeling and experiment verification of transmissivity of low-THz radar signal through vehicle infrastructure [J]. IEEE Sensors Journal 20 (15), 8483-8496, 2020.