

# Paul Lesur

Software engineer

## address

Albrecht str. 21,  
67655, Kaiserslautern  
Germany

## phone

+33 (0)6 33 80 57 13

## email

paul.lesur59@gmail.com

## programming

Rust  
C++  
Python  
Bash  
CMake  
git  
SQL

## languages

French native  
English C1  
German B1  
Spanish B1

## other

lesurpaul.fr  
github.com/lesurp

## Experience

- 2022-02 (current) **PhD student in Control and Planning** Kaiserslautern, Germany  
*TU Kaiserslautern*  
Research on planning and control for multi-agent systems, applied to autonomous driving (MIP using **Gurobi**, MPC / NLP using **CasADi**, DL using **PyTorch**, planning in **Rust**).
- 2020-10 **C++ Software Engineer** Croix, France  
2021-12 *Exotec*  
Development of the software controlling in real-time up to **200 mobile robots** for an automated storage solution (**path-planning**, **error handling** in **C++**). Lead engineer on the largest system deployed to date.
- 2018-01 **Computer Vision Research Engineer** Kaiserslautern, Germany  
2020-10 *DFKI*  
Research on visual SLAM (ORB\_SLAM2, VINS), tracking, image segmentation, object recognition, using: **CNNs**, **EKFs**, **OpenCV**, **Eigen**, **g2o**, **ROS**, **PyTorch**.
- 2017-09 **Software Engineering Consultant** Toulouse, France  
2017-12 *Alten Sud-Ouest*  
C++ consultant, worked with Orange on their embedded **C++/Qt** software.
- 2016-05 **C++ Software Engineer** Villeneuve D'Ascq, France  
2016-07 *INRIA*  
Pose estimation of an indoor blimp (using **OptiTrack** and onboard **IMU/camera**), with remote control, in C++ (**OpenCV**), **Python**, and **Matlab/Simulink**.

## Education

- 2016-17 **Academic Exchange, Computer Science** Huntingdon, PA, USA  
*Juniata College*  
Software engineering and IT security, project management
- 2012-17 **Master in Computer and Electronics Engineering (M.E)** Lille, France  
*ISEN Lille*  
Mathematics, physics, engineering, image/signal processing, computing, electronics (mainly digital, with development on microcontrollers)

## Soft skills

Desire to learn  
Team building  
Autonomous

## Hard skills

Software Engineering  
Algorithm Development  
Computer Vision  
Control Engineering  
Optimization  
Machine Learning

Linux  
ROS / ROS2  
Eigen, OpenCV  
CasADi  
Gurobi  
PyTorch

## Conference Papers

Online Multi-Agent Path Planning in Runaway Scenarios

Paul Lesur, Naim Bajcinca

*Submitted, 2022*

SLAM in the Field: An Evaluation of Monocular Mapping and Localization on Challenging Dynamic Agricultural Environment

Fangwen Shu, Paul Lesur, Yaxu Xie, Alain Pagani, Didier Stricker

*2021 IEEE Winter Conference on Applications of Computer Vision (WACV), 2021*

Deep Multi-state Object Pose Estimation for Augmented Reality Assembly

Yongzhi Su, Jason Rambach, Nareg Minaskan, Paul Lesur, Alain Pagani, Didier Stricker

*2019 IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct), 2019*

SlamCraft: Dense Planar RGB Monocular SLAM

Jason Raphael Rambach, Paul Lesur, Alain Pagani, Didier Stricker

*2019 16th International Conference on Machine Vision Applications (MVA), 2019*

## Articles

Mixed reality applications in urology: Requirements and future potential

Gerd Reis, Mehmet Yilmaz, Jason Rambach, Alain Pagani, Rodrigo Suarez-Ibarrola, Arkadiusz Miernik, Paul Lesur, Nareg Minaskan

*Annals of Medicine and Surgery 66 (2021-06) p. 102394. 2021*