

andrey kudryavtsev

computer vision engineer



mail & web

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🏠 avkudr.github.io

languages

russian: native
french: fluent
english: advanced

programming

C++
(opencv, openmvg, ceres, nlopt, visp, eigen, openmp, qt)
MATLAB
JavaScript
(electron, node.js)

projects

pollen3d 🏠
software for 3d reconstruction from microscope images
robust 🏠
c++ library of RANSAC-based optimizers

interests

computer vision, 3d reconstruction, augmented reality, SLAM, camera calibration, projector calibration, visual servoing, optimisation, robotics, c++ programming, problem solving

experience

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|------------|---|----------------------------|
| since 2018 | Computer Vision Engineer <i>Project:</i> Modulo Kinetic software { development of the algorithms for automatic calibration of multi-projector systems on flat and curved (dome) surfaces, multi-camera calibration, CAD-based 3D tracking in sparse point cloud, augmented reality for virtual studio applications; implementation in C++ } | Modulo Pi, Paris, France |
| 2017-2018 | Post-doc in Medical Robotics <i>Project:</i> control of a concentric tube robot (CTR) with SLAM using a camera installed in eye-in-hand configuration { development of a new simulator for CTR using Electron/JS; path planning based on a 3D point cloud estimated using SLAM; implementation of the control law in C++ } | FEMTO-ST, Besançon, France |
| 2014-2017 | Ph.D. in Computer Vision <i>University of Burgundy and Franche-Comte</i> <i>Project:</i> 3D Reconstruction in Scanning electron microscope { set of algorithms for a special type of camera (affine camera): pose estimation, selfcalibration, etc. All of them are implemented in a software written in C++ with OpenCV & Qt } | UBFC & FEMTO-ST, Besançon |
| 2014 | Master+engineer internship (8 months) <i>Project:</i> Visual servoing for automated assembly of microcomponents { Control of the micromanipulation station using visual feedback from two cameras. Work on a pose-based algorithm of visual servoing for parallel projection cameras(C++ with OpenCV & ViSP) } | FEMTO-ST, Besançon |

education

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|-----------|---|
| 2012–2014 | Engineer diploma in Mechatronics École Nationale Supérieure de Mécanique et des Microtechniques Besançon, France |
| 2011–2012 | M.Sc. in Automation and Control Ivanovo State Power Engineering University (ISPEU) Ivanovo, Russia |
| 2007–2011 | B.Sc. in Automation and Control Ivanovo State Power Engineering University (ISPEU) |