



PAUL BAKSIC

Ph. D. - Medical robotics

CONTACT

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in paul-baksic-235162107

SKILLS

Robotics 5+ yrs

Programming 5+ yrs

Control theory 4+ yrs

Numerical simulation 3+ yrs

Teaching 3+ yrs

C++ 5+ yrs

Matlab 5+ yrs

Python 3+ yrs

Linux 4+ yrs

CMake 4+ yrs

LANGUAGES

French M.T.

English C1-C2

EDUCATION

Ph. D. - Medical robotics 2018 - 2022
Université de Strasbourg - Strasbourg, (France)

Simulation-based robotic control for interventional radiology assistance.

M.S. - Robotics, Imaging & Computer Science 2016 - 2018
Université de Strasbourg - Strasbourg, (France)

Passed with honour (15.2/20). Thesis work on Computer Vision.

Engineer degree - Robotics & Computer Science 2015 - 2018
Télécom Physique Strasbourg - Strasbourg, (France)

Passed with honour (15.15/20). Specialised in robotics and control theory.

Preparatory Class For The Grandes Ecoles 2013 - 2015
Lycée Kléber - Strasbourg, (France)

Equivalent to a Bachelor degree in Mathematics and Physics with an option in Computer Theory.

WORK EXPERIENCE

Research Engineer July 23 - Now
INRIA (France)

Software development engineer at the Simulation Open Framework Architecture consortium (SOFA). Missions includes DevOps, C++ development, researcher and community support.

Research Engineer Sept. 22 - June 23
CNRS (France)

Development of an experimental setup in the field of robotic needle insertion. Implementation of vision, control, and simulation algorithms.

Research Engineer June 22 - Sept. 22
Université de Strasbourg, Strasbourg (France)

Worked on maintaining research team's code in the field of numerical simulation. It consisted in maintaining old code and merging it into newly developed framework.

Ph.D. Student Oct. 18 - June 22
Université de Strasbourg, Strasbourg (France)

Worked as a Ph.D. student in the ICube lab inside the AVR (currently RDH) team. Lead my research project on robotic assistance to interventional radiology. Through this job I gained skills in research, writing, programming (C++), supervising and communicating.

PERSONAL INTERESTS

The Guitar

Played for 7 years

Self-taught. Plays classical, folk and electric guitar.

Reflex Photography

Practiced for 5 years

Self-taught. Take portrait, landscape and macro photos.

Beekeeping

Practiced for 5 years

Self-taught. Took care of a maximum of 5 Dadant hives at the same time.

Squash

Practiced for 2 years

Played with colleagues and friends at an amateur level.

Video Games

Computer, PS4 and Switch

Mostly RTS and RPG games.

Graduate Teaching Assistants

Université de Strasbourg, Strasbourg (France)

Oct. 19 - June 21

Supervised practical work in continuous and discrete control theory and in numerical optimization to master students.

Research Engineer Intern

IRCAD, Strasbourg (France)

Feb. 18 - July 18

Worked as a research engineer in the field of computer vision. Adapted calibration methods into the firm framework, tested automatic calibration method from the literature and developed an AR software using Orb-SLAM and optical flow for surgery.

PUBLICATIONS

Paul Baksic

Commande robotique basée simulation pour l'assistance à la radiologie interventionnelle

Robotique [cs.RO]. Université de Strasbourg, 2022. Français.

HAL : 03881361

Paul Baksic, Hadrien Courtecuisse, Bernard Bayle

Shared control strategy for needle insertion into deformable tissue using inverse Finite Element simulation

ICRA 2021 - IEEE International Conference on Robotics and Automation, May 2021, Xi'an / Virtual, China.

DOI: 10.1109/ICRA48506.2021.9561013

Pedro Henrique Suruagy Perrusi, Paul Baksic, Hadrien Courtecuisse

Interactive Finite Element model of needle insertion and laceration

Eurographics 2021 - The 42nd Annual Conference of the European Association for Computer Graphics, European Association for Computer Graphics, May 2021, Vienne / Virtual, Austria.

DOI: 10.2312/egs.20211020

Pedro Henrique Suruagy Perrusi, Anna Cazzaniga, Paul Baksic, Eleonora Tagliabue, Elena de Momi, Hadrien Courtecuisse

Learning robotic needle steering from inverse finite element simulations

ICRA 2021 - Workshop on Representing and Manipulating Deformable Objects, May 2021, Xi'an / Virtual, China.

HAL: hal-03241674

Paul Baksic, Hadrien Courtecuisse, Christian Duriez, Bernard Bayle

Robotic needle insertion in moving soft tissues using constraint-based inverse Finite Element simulation

ICRA 2020 - IEEE International Conference on Robotics and Automation, May 2020, Paris / Virtual, France. pp.2407-2413.

DOI: 10.1109/ICRA40945.2020.9197515

Paul Baksic, Hadrien Courtecuisse, Matthieu Chabanas, Bernard Bayle

FEM-based confidence assessment of non-rigid registration

Surgetica 2019, 2019, Rennes, France.

HAL: hal-02238974