R&D Biomedical Engineer

EDUCATION

MASTER OF SCIENCE
Master of Imaging Robotics and Biomedical Engineering (IRIV)
Université de Strasbourg
2019 - 2020 | Strasbourg, France
Major in Robotics and Automation

BACHELOR DEGREE
Health ITC: Information and Communication Technologies
Université de Strasbourg
2018 - 2020 | Strasbourg, France

BACHELOR DEGREE
Mechatronics Engineering
Universidade de Brasília (UnB)
2014 - Suspended | Brasília, Brazil
Major in Controls and Automation

SKILLS

PROGRAMMING
C • C++ • C# • Python • MATLAB • SQL
CUDA • Assembly MIPS • Bash • Git

FRAMEWORKS
SOFA • ROS •OpenCV •OpenGL • Qt5
ITK • VTK • SIMULINK • Unity • LaTeX

LANGUAGES

PORTUGUESE
Mother tongue

ENGLISH
Fluent
TOEIC score 960/990

FRENCH
Fluent
TCF DAP: B2

PERSONAL INFO

PEDRO HENRIQUE SURUAGY PERRUSI
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GitHub: github.com/pedroperrusi

PROFESSIONAL EXPERIENCES

RESEARCH ENGINEER IN MEDICAL ROBOTICS
Sept 2020 - Sept 2021 | ICube AVR – MIMESIS INRIA, Strasbourg
— Development of physical experiments and demonstrations
— Research on real-time needle insertion simulations (C++, OpenCV, ROS, SOFA)
— Cooperate with external researchers and co-orient master students

MEDICAL DEVICES STARTUP R&D | Robotics, Vision and AI Dev.
Mai 2019 – Sep 2019 | SquareMind, Paris
— System integration of Deep Learning Model inferences (Qt5, C++, CUDA)
— Network interface and Digital signal processing of time-of-flight sensors
— Implement vision-based robotic control routines (ROS, OpenCV)
— Implement multi-camera registration routines (Python)

MEDICAL IMAGE SEGMENTATION | Computer Vision Dev.
Sep 2018 – Mai 2019 | Axilum Robotics & Université de Strasbourg
— Develop MRI Brain Image Segmentation software (C#, ITK, VTK)
— Application GUI rendered in Windows Forms (C#)

CLARA – ROBOTIC ENDOSCOPE HOLDER | Computer Vision Dev.
Aug 2015 – Jul 2017 | Laboratory of Automation and Robotics (LARA), UnB
— Autonomous computer vision surgical instrument tracking (Qt5, C++, OpenCV)
— Published and presented research paper

HACKATHON AND AWARDS

B.E.S.T. STRASBOURG X TAIWAN INNOVATION WEEK
Aug 2020 - Sept 2020 | IHU & IRCAD Strasbourg
— Education in Business and Innovation in Medical Devices
— Winning team of the innovation challenge (Best of B.E.S.T)

DEVELOPMENT OF A SERIOUS GAME FOR PHYSICAL ACTIVITY
Mars 2019 | Hacking Health Camp Strasbourg
— C# and Unity programming of an augmented reality serious game in 3 days
— GPS and IMU sensor processing and integration into the application.
— Winning team of Jensen Award of Hacking Health Camp 2019

PUBLICATIONS HIGHLIGHTS

INTERACTIVE FINITE ELEMENT MODEL OF NEEDLE INSERTION AND LACERATION
P. Perrusi, P. Baksic, H. Courtecuisse
Eurographics 2021 Conference of the European Association for Computer Graphics

RLEARNING ROBOTIC NEEDLE STEERING FROM INVERSE FINITE ELEMENT SIMULATIONS
P. Perrusi, A. Cazzaniga, P. Baksic, E. Tagliabue, E. de Momi, H. Courtecuisse
ICRA 2021 Workshop on Representing and Manipulating Deformable Objects