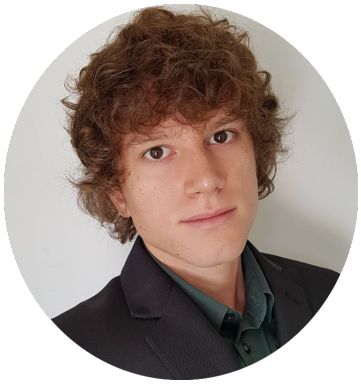
Medical Engineering Researcher



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
Good command
TCF DAP: B2

PERSONAL INFO

PEDRO HENRIQUE SURUAGY PERRUSI
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Mobile: +33 7 66 56 68 87
LinkedIn: linkedin.com/in/pedroperrusi
GitHub: github.com/pedroperrusi

EXPERIENCES

RESPIRATORY MOTION COMPENSATION DURING ROBOT-ASSISTED NEEDLE STEERING | Master Thesis
Feb 2020 - Sept 2020 | ICube AVR – MIMESIS, Strasbourg
- Inverse Finite Element Model (FEM) simulations of needle steering procedures
- Propose a motion compensation strategy based in respiratory prediction filters
- Implement a beveled tip needle model for FEM Simulations
- Reduce final needle positioning error in a robot-assisted autonomous needle steering

B.E.S.T. STRASBOURG X TAIWAN ON-SITE WEEK
Aug 2020 - Sept 2020 | IHU & IRCAD Strasbourg
- Education in Business and Innovation in Medical Devices
- Practical training in Laparocopic Minimally Invasive Surgery
- Winner team of the innovation challenge (Best of B.E.S.T)

MEDICAL DEVICES STARTUP R&D | Robotics & Vision Dev.
Mai 2019 – Sep 2019 | SquareMind, Paris
- Develop robotic manipulator control routines
- Develop multi-camera calibration and registration setup
- Combine multiple point-cloud in a localization system
- Implement embedded electronics API

MEDICAL IMAGE SEGMENTATION | Computer Vision Dev.
Sep 2018 – Mai 2019 | Axilum Robotics & Université de Strasbourg
- Develop MRI Brain Image Segmentation software
- Implemented autonomous morphology-based method
- Implemented semi-autonomous region-growing method

CLARA – ROBOTIC ENDOSCOPE HOLDER | Student Researcher
Aug 2015 – Jul 2017 | Laboratory of Automation and Robotics (LARA), UnB
- Published and presented research paper
- Autonomous computer vision surgical instrument tracking
- Electronics design of a light source for the endoscope

PUBLICATIONS

ADVANCES IN THE INVERSE BIOMECHANICAL SIMULATION FRAMEWORK FOR AUTONOMOUS ROBOTIC NEEDLE STEERING
Pedro Henrique Suruagy Perrusi
Master Thesis Dissertation, University of Strasbourg 2020.

EDGES BASED SURGICAL INSTRUMENT TRACKING IN LAPAROSCOPIC IMAGES
Miranda; Perrusi; Vergara; Bernardes
Proceedings of Congresso Brasileiro de Engenharia Biomédica, CBEB 2016.