

## Experience

- 2023 – 2024 **PicSea Ltd.**, Edinburgh  
*Robotics software engineer/IT systems manager*  
Responsible for the software and the onboard computers of the company's [autonomous underwater vehicles](#), instrumented buoys, and networking systems (maintenance, development, integration). Trials in the field, [deployments at customer sites](#). Mentoring.
- 2017 – 2023 **University of Strathclyde**, Glasgow  
*Research associate/Research software engineer*, [Maritime Safety Research Centre](#)  
Software engineering for the assessment of ship vulnerability to flooding, in the context of two European [research projects](#) on ship safety involving 15+ partner organisations each. Organisation of the leading international conference in the field, attended by 300 delegates.  
*Research associate/Research software engineer*, [Centre for Ultrasonic Engineering](#)  
Software engineering for ultrasound data visualisation in automated non-destructive testing. Automatic detection of defects in composite materials.  
*Research assistant*, [Space Mechatronics Laboratory](#)  
Development of a [software framework for sensor data fusion](#) in planetary and orbital robotics. Experimental validation at the German space agency and in a Mars analogue site in the Sahara desert. Work part of a cluster of coordinated European research projects in space robotics.
- 2013 – 2015 **Georgia Institute of Technology** and **CNRS**, France  
*Research assistant*, [Field Robotics Laboratory](#)  
Terrain-based navigation of autonomous underwater vehicles using sidescan sonars, for a [European research project on underwater robotics](#).
- 2007 – 2011 **Atomic Energy Commission (CEA)**, France  
*Ph.D. student*, [Interactive Simulation Laboratory](#)  
Modelling and control of [multifingered dextrous manipulation](#) for humanoid robot hands. Applications in robotics, virtual reality, computer animation, prosthetics.

## Education

- 2007 – 2011 **Ph.D. in robotics**  
[Pierre and Marie Curie University](#) and Atomic Energy Commission
- 2006 – 2007 **M.S. in computer science**  
[University of Paris-Sud](#). Virtual and augmented reality, statistical data analysis.
- 2004 – 2007 **M.S. in engineering**  
[ENSTA Paris](#). Applied mathematics and computer science: control theory, mathematical programming, scientific computing, differential geometry, probability theory, robotics, computer graphics, image processing.

## Software skills

Programming	Python, C/C++, Bash	Image processing	Pillow
Software frameworks	ROS, Qt	Computer vision	OpenCV
Data analysis	NumPy, Pandas, Matplotlib, MATLAB	Systems	GNU/Linux, Raspberry Pi
Tools	Git, Docker, CMake, Python packaging	Technical writing	LaTeX, Markdown, reST

## Language skills

English	Fluent	French	Native	German	Elementary
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## Social activities

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- Researcher support I help grow a community of [research software engineers](#) at the University of Strathclyde. We run software engineering clinics to help researchers write better software and produce better research.
- Sport I am a certified lacrosse referee with three years of officiating experience in Scotland and England, a keen swimmer, and a member of Glasgow's LGBT+ running club.

## Selected publications and presentations

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- IMDC 2022 [A multi-level approach to flooding risk estimation of passenger ships](#). Dracos Vassalos et al. International Marine Design Conference. Vancouver, BC, Canada, June 2022.
- STAB&S 2021 [A computer program for lifecycle flooding risk assessment according to the FLARE Framework process](#). Romain Michalec et al. International Conference on the Stability and Safety of Ships and Ocean Vehicles. Glasgow, Scotland, June 2021.
- IJARS 2020 [Common Data Fusion Framework: an open-source common data fusion framework for space robotics](#). Raúl Domínguez et al. International Journal of Advanced Robotics Systems, Mar. 2020.
- RSEConUK 2019 ["It works on my machine": working as a research software engineer in a multi-partner international research project](#). Romain Michalec et al. Conference of Research Software Engineers. Birmingham, England, Sept. 2019.
- ASTRA 2019 [Data fusion framework for planetary and orbital robotics applications](#). Shashank Govindaraj et al. Symposium on Advanced Space Technologies in Robotics and Automation. Noordwijk, the Netherlands, May 2019.
- IAC 2018 [InFuse data fusion methodology for space robotics, awareness and machine learning](#). Mark Post, Romain Michalec et al. International Astronautical Congress. Bremen, Germany, Oct. 2018.
- i-SAIRAS 2018 [A common data fusion framework for space robotics: architecture and data fusion methods](#). Raúl Domínguez, Romain Michalec et al. International Symposium on Artificial Intelligence, Robotics, and Automation in Space. Madrid, Spain, June 2018.
- OCEANS 2014 [Sidescan sonar aided inertial drift compensation in autonomous underwater vehicles](#). Romain Michalec and Cédric Pradalier. MTS/IEEE Oceans. St. John's, NL, Canada, Sept. 2014.
- Ph.D. dissertation [Modeling and control of multifingered dextrous manipulation for humanoid robot hands](#). Romain Michalec. Ph.D. thesis. Fontenay-aux-Roses, France, Dec. 2011.
- HUMANOIDS 2010 *Best Paper Finalist* [Stiffness modeling for multifingered grasping with rolling contacts](#). Romain Michalec and Alain Micaelli. IEEE/RAS International Conference on Humanoid Robots. Nashville, TN, USA, Dec. 2010.
- IROS 2009 [Optimal tightening forces for multifingered robust manipulation](#). Romain Michalec and Alain Micaelli. IEEE/RSJ International Conference on Intelligent Robots and Systems. St. Louis, MO, USA, Oct. 2009.
- SYROCO 2009 [Dynamic optimization-based control of dextrous manipulation](#). Romain Michalec and Alain Micaelli. IFAC International Symposium on Robot Control. Gifu, Japan, Sept. 2009.