Curriculum Vitae

Rui Fernando Faustino Bettencourt

Rui Fernando Faustino Bettencourt. Atua na(s) área(s) de Ciências da Engenharia e Tecnologias com ênfase em Engenharia Eletrotécnica, Eletrónica e Informática com ênfase em Robótica.

Identification

Personal identification

Full name
Rui Fernando Faustino Bettencourt

Citation names

Bettencourt, Rui

Author identifiers

Ciência ID
5B18-8423-4C47

Email addresses

rui.bettencourt@tecnico.ulisboa.pt (Professional)

Knowledge fields

Engineering and Technology - Electrotechnical Engineering, Electronics and Informatics - Robotics and Automatic Control

Languages

Language	Speaking	Reading	Writing	Listening	Peer-review
Portuguese (Mother tongue)					
English	Proficiency (C2)	Proficiency (C2)	Proficiency (C2)	Proficiency (C2)	
French	Elementary (A2)	Elementary (A2)	Elementary (A2)	Elementary (A2)	

Education

Degree	Classification

2014/09/11 - 2019/11/15 Concluded	Engenharia Electrotécnica e de Computadores (Mestrado integrado) Major in Decisão e Controlo Universidade de Lisboa Instituto Superior Técnico, Portugal *"Multimodal Navigation for Autonomous Mobile Service Robots" (THESIS/DISSERTATION)*	16

Affiliation

Science

2020/01/01 - 2020/12/31 Contracted Researcher (Research)

Universidade de Lisboa Instituto de Sistemas e Robótica, Portugal

Projects

Contract

	Designation	Funders
2020/01/01 - Current	DURABLE H2020 INTERREG ATLANTIC EAPA_986/2018 Research Fellow Universidade de Lisboa Instituto Superior Técnico, Portugal Advanced Center for Aerospace Technologies, Spain EDP, Portugal Universidad de Sevilla, Spain University of the West of England, United Kingdom Ingeteam Corporación SA, Spain Centro de Investigacion en Tecnologias de Union Lortek, Spain Dublin City University, Ireland Corporación Tecnológica de Andalucía, Spain École supérieure des technologies industrielles avancées, France	Interreg Europe, France
2019/02/01 - Current	SCIROC H2020-ICT-2017-1-780086 Research Fellow Universidade de Lisboa Instituto Superior Técnico, Portugal	
2020/02/20 - 2020/02/28	MBZIRC 2020 Team IND_INTL United Arab Emirates Research Fellow Khalifa University of Science and Technology, United Arab	

Emirates
Universidade de Lisboa Instituto Superior Técnico, Portugal
Universidad de Sevilla, Spain

Other

	Designation	Funders
2019/02/01 - Current	SocRob@Home SocRob@Home Team Leader Universidade de Lisboa Instituto Superior Técnico, Portugal	

Outputs

Publications

Conference paper	1	Bettencourt, Rui; Lima, Pedro U.. "Multimodal Navigation for Autonomous Service Robots". Paper presented in *IEEE International Conference on Autonomous Robot Systems and Competitions (ICARSC)*, *Santa Maria da Feira*, 2021. Accepted
Journal article	1	BASIRI, MEYSAM; Gonçalves, João; Rosa, José Eduardo; Bettencourt, Rui; Vale, Alberto; Lima, Pedro U.. "A multipurpose mobile manipulator for autonomous firefighting and construction of outdoor structures". *Journal of Field Robotics* (2021): https://onlinelibrary.wiley.com/journal/15564967. Accepted
Thesis / Dissertation	1	Bettencourt, Rui. "Multimodal Navigation for Autonomous Mobile Service Robots". Master, Universidade de Lisboa Instituto Superior Técnico, 2019. https://fenix.tecnico.ulisboa.pt/cursos/meec/dissertacao/1691203502343554.

Activities

Supervision

	Thesis Title Role	Degree Subject (Type) Institution / Organization
2021/03/01 - Current	"People Recognition and Identification in Service Robots": The goal of this thesis is to create a method that, in a robust and efficient way, recognizes one or multiple people in their environment while also defining a specific unique ID for each person that will allow their identification and re-identification. This will not only allow the recognition of a	Engenharia Eletrotécnica e de Computadores (Master) Universidade de Lisboa Instituto Superior Técnico, Portugal

	specific person in a home environment with minimal pre-training, but will also allow a memory of previously seen people by the robot with new visitors detection. Co-supervisor of Vicente Pinto	
2021/03/01 - Current	"Conversational skills for a service mobile robot targeting a STEM context": To develop a conversational system (also known as chatbot) for a mobile service robot to generate and sustain a conversation about the context of the robot state, with the goal of engaging youngsters in Science, technology, engineering, and mathematics (STEM). The main challenge will be the integration of the conversation context with the internal knowledge base of the robot. Co-supervisor of Verónica Spelbrink	Engenharia Informática e de Computadores (Master) Universidade de Lisboa Instituto Superior Técnico, Portugal

Event participation

	Activity description Type of event	Event name Institution / Organization
2020/09/21 - 2020/09/21	Talk on SciRoc Camp regarding good practices and lessons learned from previous robotic competitions as the team leader of SocRob@Home. The talk aimed to transmit knowledge to new robotic teams regarding the implementation in service robots. Symposium	SciRoc Camp GKK Symposium Universidade de Lisboa Instituto Superior Técnico, Portugal
2020/02/20 - 2020/02/25	International competition in collaboration with CATEC and the University of Sevilla in 3 independent challenges and a final challenge that incorporated the 3 previous challenges at the same time. The challenges consisted in structure construction, detecting fires and then putting them out. These challenges were completed by a team of cooperating autonomous UAVs and UGVs. Our team won, against 27 other teams from around the world, the challenge of detecting and putting out fires, corresponding to a cash prize of 250 000 USD. Meeting	MBZIRC2020 Khalifa University of Science and Technology, United Arab Emirates
2019/10/11 - 2019/10/13	HackUPC is a hackathon with over 700 students that gather for 36h to develop all sorts of projects, like mobile applications, hardware innovations, web	HackUPC - 36 h Hackaton in Barcelona Universitat Politècnica de Catalunya, Spain

	solutions or even robotic implementations. Throughout the hackathon there are introductory and sponsor talks. Projects are judged based on technical difficulty, innovation and overall learning experience mainly, but also on their usability and design, by a panel of industry judges and UPC faculty. The project developed was a wep app that allows the user to send 5-second videos by IPFS. Other	
2019/09/16 - 2019/09/22	ERL Smart Cities was a robotics competition in Milton Keynes, England. This competition was created to demonstrate the latest state of the art in robotics to the population, by providing multiple scenarios in which many teams from around Europe participated. One of these scenarios consisted in a restaurant where the autonomous Unmanned Ground Vehicle had to act as a waiter, serving tables, taking orders, deliver the request orders and guiding customers to free tables. We finished third in this scenario, where I was responsible for the navigation. Other	ERL Smart Cities Milton Keynes Council, United Kingdom
2018/04/21 - 2018/04/22	ValHacks is a student-run 24-h hackathon, powered by BEST Copenhagen. The objective of the event was to empower students by providing them with complementary education, activities and international exchange. ValHacks is organized by the members of BEST Copenhagen present at the Technical University of Denmark (DTU) and aims to bring Universities, Students and Companies closer together in a relaxed and creative atmosphere. The group where I was inserted developed an online solution to look for youtube live streams in a world map. Other	ValHacks - 24h Hackathon in Copenhagen Danmarks Tekniske Universitet, Denmark

Committee member

	Activity description Role	Institution / Organization
2020/05/28 - Current	RoboCup Portuguese Regional Committee - RoboCup@Home Technical Committee member Member	

Course / Discipline taught

	Academic session	Degree Subject (Type)	Institution / Organization
2020/09/21 - 2021/01/27	I helped teaching the Autonomous Systems course as a Teaching Assistant (TA), a course that introduces some fundamental Robotics concepts to master students. The function of TA consisted in helping with 3 classes every week of one and a half hours to help and evaluate students with their projects as well as office hours for any additional questions. The students of this course learn the concepts of localization, mapping and simultaneous localization and mapping in the presence of uncertainty in the measurement and motion models of robot systems.	Engenharia Eletrotécnica e de Computadores (Mestrado integrado)	Universidade de Lisboa Instituto Superior Técnico, Portugal

Distinctions

Award

2020	MBZIRC2020 Challenge 3 Winner Khalifa University of Science and Technology, United Arab Emirates