



RESEARCH SCHOLARSHIP OPPORTUNITY

Position reference number	DGT4_PD2	Deadline for application	20/12/2024
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Institution	Universidade de São Paulo, Escola Politécnica
Department	Eng. Mecatrônica e de Sist. Mecânicos
Supervisor	Prof. Thiago de Castro Martins

Funding source	FAPESP	Type	POSDOC
Duration (months)	24	Hours/week	8
Monthly stipend	R\$ 12000 (BRL Brazilian Reais)		
Workplace	Escola Politécnica, Universidade de São Paulo, Av. Prof Melo Moraes 2231, Cidade Universitária, São Paulo SP, Brasil		
Planned start date	01/01/2024		

Project title: Point cloud and sensor fusion for Simultaneous Location and Mapping on wearable devices.	Título do projeto Nuvem de pontos e fusão sensorial para Localização e Mapeamento simultâneos em dispositivos vestíveis
Research theme SLAM	Tema de pesquisa Mapeamento e Localização Simultâneos
Project abstract Augmented Reality support to manual interventions in FPSO infrastructure means accurate superimposing in the field of view of the operator auxiliary imagery properly aligned to existing equipment while compensating for head motion. The objective is to develop a wearable helmet with sensors able to track its position in 6dof with latency, throughput and accuracy suitable for AR support. This project presumes that the environment won't receive specific modifications to support this operation and communications between the helmet and external systems are unreliable. As such, this project aims to track the helmet position by making use of sensors embedded on it, such as video cameras and inertial sensors.	Resumo do projeto Suporte de Realidade Aumentada para intervenções manuais em infraestrutura de FPSO envolve a sobreposição precisa de imagens auxiliares no campo de visão do operador, devidamente alinhadas ao equipamento existente e compensando os movimentos da cabeça. O objetivo é desenvolver um capacete vestível com sensores capazes de rastrear sua posição em 6 graus de liberdade (6DOF) com latência, taxa de transferência e precisão adequadas para suporte de Realidade Aumentada. Este projeto parte do pressuposto de que o ambiente não sofrerá modificações específicas para suportar esta operação, e que as comunicações entre o capacete e sistemas externos são pouco confiáveis. Assim, o projeto visa rastrear a posição do capacete utilizando sensores embutidos, como câmeras de vídeo e sensores inerciais.

Requirements for the candidate	Requisitos para o candidato
PhD in robotics or correlated area	Doutor em robótica ou área correlata

NOTES

- This research scholarship is offered by the OTIC – Offshore Technology Innovation Centre, a research center based at the University of São Paulo, Brazil.
- The scholarship will cover a standard monthly stipend determined by the funding agencies.
- Foreign candidates must fulfill the immigration requirements and obtain the necessary visas to work as researchers in Brazil. (Help will be offered to the selected candidate.)
- After the application process, potential candidates will be invited for personal or remote interviews.

REQUIRED DOCUMENTS FOR APPLICATION

- Single-page presentation letter. Introduce yourself and share your motivations for applying for this position.
- Brief curriculum vitae with academic and professional experience, highlighting the skills that will contribute to this position.
- Recommendation letters (optional). One or two recommendation letters will help support your application.

APPLICATION PROCESS

- Prepare an e-mail to otic.jobs@usp.br.
- Add “Application to [POSITION_REF_NUMBER]” to the subject.
- Gather all required documents above and attach them in PDF format.
- Send your application before the deadline above.

If you have any questions, please write to otic.jobs@usp.br.