

TiagoMadeira



Personal Information

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Author Identifiers

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Languages

Portuguese (native)
English (fluent)

ABOUT ME

Received the MSc in Computer and Telematics Engineering from the University of Aveiro in 2019. Since then, I have worked as a researcher with the Institute of Electronics and Informatics Engineering of Aveiro (IEETA). I am currently a Computer Engineering PhD student (thesis submitted) and Research Fellow, working in Computer Vision. My research interests include 3D Reconstruction, Machine Learning, Virtual and Augmented reality, Visual Quality Assessment, Human-Computer Interaction, and Parallel Computing. I pride myself on being a strong communicator and a collaborative team player, often taking on the role of spokesman in projects.

EDUCATION

University of Aveiro, Portugal

Doctoral Programme in Computer Engineering (focussing on Computer Vision)
October 2020 - Present (thesis submitted)

"Optimization of Geometry and Texture for 3D Reconstruction Using RGB-D Data"

University of Aveiro, Portugal

Integrated Master's Degree in Computer and Telematics Engineering
September 2014 - July 2019

"Enhancement of RGB-D Image Alignment Using Fiducial Markers"

EXPERIENCE

Institute of Electronics and Informatics Engineering of Aveiro, Portugal

Research Fellow
ILLIANCE project in collaboration with Bosch
October 2024 - Present

Institute of Electronics and Informatics Engineering of Aveiro, Portugal

Pre Doctoral Fellow
PhD grant by FCT - Foundation for Science and Technology
October 2020 - September 2024

Institute of Electronics and Informatics Engineering of Aveiro, Portugal

Research Fellow
Smart Green Homes project in collaboration with Bosch
November 2019 - September 2020

TECHNICAL SKILLS

Languages : Python, C++, Java, Matlab

Tools/Frameworks : OpenCV, PyTorch, Numba, Git, Django, Docker, ROS

Databases : SQL Server, MySQL, GraphDB, MongoDB

CERTIFICATIONS

Machine Learning Specialization

Stanford Online - UNVERARCTLHZ

Advanced Learning Algorithms

Stanford Online - SN6SMXY5CNFF

Supervised Machine Learning: Regression and Classification

Stanford Online - HAJQQPDGG7JZ

PUBLICATIONS

1. **Madeira, T.**; Oliveira, M.; Dias, P. (2024) "Reflection-aware 3D Mirror Segmentation and Pose Estimation". The Visual Computer.
2. **Madeira, T.**; Oliveira, M.; Dias, P. (2024) "Meshtrics: Objective Quality Assessment of Textured 3D Meshes for 3D Reconstruction". Smart Tools and Applications in Graphics (STAG 2024); Verona, Italy.
3. **Madeira, T.**; Dal'Col, L.; Oliveira, M.; Dias, P. (2024) "3D Reconstruction Tutorial: Data Processing, Surface Reconstruction, and Texture Mapping". International Conference on 3D Web Technology (Web3D 2024); Guimarães, Portugal.
4. **Madeira, T.**; Oliveira, M.; Dias, P. (2024) "Neural Colour Correction for Indoor 3D Reconstruction Using RGB-D Data". Sensors, 24, 4141.
5. Dal'Col, L.; Coelho, D.; **Madeira, T.**; Dias, P.; Oliveira, M. (2023) "A Sequential Color Correction Approach for Texture Mapping of 3D Meshes". Sensors, 23, 607.
6. **Madeira, T.**; Marques, B.; Neves, P.; Dias, P.; Santos, B. S. (2022) "Comparing Desktop vs. Mobile Interaction for the Creation of Pervasive Augmented Reality Experiences". J. Imaging, 8, 79.
7. Coelho, D.; Dal'Col, L.; **Madeira, T.**; Dias, P.; Oliveira, M. (2022) "Robust 3D-Based Color Correction Approach for Texture Mapping Applications". Sensors, 22, 1730.
8. Oliveira, M.; Lim, G.-H.; **Madeira, T.**; Dias, P.; Santos, V. (2021) "Robust Texture Mapping Using RGB-D Cameras". Sensors, 21(9), 3248.
9. **Madeira, T.**; Marques, B.; Alves, J.; Dias, P.; Santos, B. S. (2021) "Exploring Annotations and Hand Tracking in Augmented Reality for Remote Collaboration". Human Systems Engineering and Design III; Springer International Publishing: Cham, Switzerland; pp. 83-89.
10. Oliveira, M.; Castro, A.; **Madeira, T.**; Pedrosa, E.; Dias, P.; Santos, V. (2020) "A ROS Framework for the Extrinsic Calibration of Intelligent Vehicles: a Multi-Sensor, Multi-Modal Approach". Robotics and Autonomous Systems, 131, 103558.
11. **Madeira, T.**; Oliveira, M.; Dias, P. (2020) "Enhancement of RGB-D Image Alignment Using Fiducial Markers". Sensors, 20(5), 1497.

OTHER ACTIVITIES

Modern Computer Graphics:

Winter PhD School

AI Techniques for 3D Reconstruction, Rendering, and Analysis

Verona, Italy

Attended intensive training on advanced AI techniques in computer graphics, focusing on 3D reconstruction, rendering, and analysis methodologies.

{11, 12, 13} November 2024

students@deti

Public speaking at DETI, UA

Discussed key outcomes of ongoing thesis work and collaborative projects, demonstrating novel methodologies and applications in a public project fair setting.

June {2022, 2023, 2024}

Optimization Tools Workshop

Workshop at DEM, UA

Instructor at two day workshop about Python Optimization Tools.

{16, 23} November 2021