TiagoMadeira

Personal Information

Tiago de Matos Ferreira Madeira

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Author Identifiers

Google Scholar ID
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0000-0003-1335-0803

Languages

Portuguese (native)

English (fluent)

ABOUT ME

Received the integrated Master's Degree in Computer and Telematics Engineering from the University of Aveiro in 2019. Since then, he has worked as a researcher with the Institute of Electronics and Informatics Engineering of Aveiro (IEETA). He is currently a PhD student – `thesis submitted` – under the supervision of Prof. Paulo Dias and Prof. Miguel Oliveira. His research interests include 3D reconstruction, machine learning, virtual and augmented reality, visual quality assessment, human-computer interaction, and parallel computing.

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

Unsupervised Learning, Recommenders, Reinforcement Learning
Stanford Online - QFSMWZLT6HV3

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