Curriculum Vitae

Personal Information

Name Sérgio Rui da Silva Agostinho
Phone +49 176 71221679
Email sergio@sergioagostinho.com
Website https://sergioagostinho.com

Summary

I'm a Senior Software Engineer working in LiDAR Object Detection and Semantic Segmentation as well as a last year PhD student working in Geometric Deep Learning mixed with classical optimization applied to Pose Estimation. My professional interest lies in Computer Vision research applied to Autonomous Driving, Augmented Reality and Robotics' applications. I used to be a maintainer for the Point Cloud Library open source project.

Work Experience

► Position Senior Software Engineer - 2022/Jun and ongoing
Employer Argo AI - Munich, Germany
Description Developing LiDAR Object Detection and Semantic Segmentation models for autonomous vehicle onboard perception. **Core Skills:** Geometric Deep Learning, Tensorflow, Python.

► Position Research Intern - 2022/Feb to 2022/Apr
Employer Argo AI - Munich, Germany
Description Developing LiDAR Semantic and Panoptic Segmentation models for offboard maps. **Core Skills:** Geometric Deep Learning, PyTorch, Python.

► Position Computer Vision / Augmented Reality Intern - 2016/Aug to 2017/Apr
Employer Bosch Research and Technology Center - Palo Alto, CA
Description Model based pose tracking of texture-less and highly reflective objects for Augmented Reality. **Core Skills:** Pose Estimation, OpenCV, Point Cloud Library, Eigen, C++.

► Position Software Engineer Trainee - 2014/Apr to 2016/Mar
Employer European Space Agency - Noordwijk, Netherlands
Description Developed mobiPV, procedure viewer enabled with audio and video communications for collaborative work between ground stations and the International Space Station. Technical reviewer for Augmented Reality related projects. **Core Skills:** GStreamer, OpenCV, C, C++, HTML, Javascript, CSS.

► Position Software Engineer - 2012/Nov to 2013/Aug
Employer LusoSpace - Lisbon, Portugal
Description Development of an inertial Extended Kalman Filter pose tracking system for optical see-through Augmented reality glasses. Improved calibration procedures for multiple in-house sensors. **Core Skills:** Pose Estimation, OpenCV, C++, Python

► Position | Junior Full-Stack Web Developer - 2011/Nov to 2012/Oct
Employer | BIN Buy it Now - Lisbon, Portugal

Relevant Publications

► Is Geometry Enough for Matching in Visual Localization? - Q. Zhou*, **S. Agostinho***, A. Ošep and L. Leal-Taixé - European Conference on Computer Vision 2022

► (Just) A Spoonful of Refinements Helps the Registration Error Go Down - **S. Agostinho**, A. Ošep, A. Del Bue and L. Leal-Taixé - International Conference on Computer Vision 2021 (Oral)

► CvxPnPL: A unified convex solution to the absolute pose estimation problem from point and line correspondences - **S. Agostinho**, J. Gomes and A. Del Bue - To appear in the Journal of Mathematical Imaging and Vision - (submitted in 2020)

► Loss of Significance and Its Effect on Point Normal Orientation and Cloud Registration - M. Young, C. Pretty, **S. Agostinho**, R. Green and X. Chen - Remote Sensing, 11(11) - 2019

Research Placements

► Research Group | Dynamic Vision and Learning Group
Institution | Technical University Munich
Project | Geometrically driven learn-based point cloud registration and visual localization.
Period | 2019/Aug - 2022/Feb

► Research Group | Visual Geometry and Modelling
Institution | Istituto Italiano di Tecnologia
Project | A convex optimization approach for absolute pose estimation from point and line correspondences
Period | 2018/Nov - 2019/Apr

Education

► Study Field | Computer Vision / Deep Learning - Point Cloud Registration, Visual Localization, Absolute Pose Estimation
Institution | Instituto Superior Técnico - Lisbon, Portugal
Degree Title | Doctor of Philosophy - 2016/Apr to 2023/Q1
Grade Average | 19 out of 20

► Study Field | Aerospace Engineering - Avionics
Institution | Instituto Superior Técnico - Lisbon, Portugal
Degree Title | Integrated Master of Science - 2004/Sep to 2013/Feb
Awards | Won best graduating MSc student in Aerospace Engineering 2012/2013

*Equal contribution.

Thesis	**Title:** Detection and Localization of Gaseous Point Sources for Environmental Assessment and Monitoring of Critical Infrastructures using Sensor Networks **Grade:** 19 out of 20
Other	
Open Source	Core maintainer for the computer vision project Point Cloud Library (PCL) Mentor for two Google Summer of Code initiative 2020 projects
Languages	
Portuguese	Mother Tongue
English	Proficient. Test of English as a Foreign Language (TOELF iBT) - 111 out of 120.
German	A1