

Contact

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scholar

DOB: 12/08/1992

Expert skills

COMPUTER VISION

image retrieval
multiple view geometry
pattern recognition

MACHINE LEARNING

supervised learning
unsupervised //
selfsupervised //
regression

NEURAL NETWORKS

convolutional layer
recurrent layer
encoder/decoder
GAN

Computer skills

PROGRAMMING

Python, C/C++,
Matlab, L^AT_EX

LIBRARIES

Pytorch
Scikit Learn
OpenCV, OpenGL
PCL (Point Cloud
Library)
ROS (Robotic
Operating System)

OS

Linux, Windows,
MacOS

Github : npiasco

Nathan Piasco

Engineer - PhD student in computer vision

Education

- 2016 - 2019 **PhD - Image processing** UBFC, Dijon
Thesis : Vision-based localization with discriminative features from heterogeneous visual data
- 2014 - 2015 **Master Degree** Université Pierre et Marie Curie, Paris
Images and Sound processing for Intelligent Systems
- 2010 - 2015 **Engineering school** Polytech Paris-UPMC, Paris
Major in Robotic and Computer Programming

Work experience

- 10/16 - 09/19 **PhD student** Vibot, ImVIA - LASTIG-IGN lab, 94160 Saint-Mandé
VISION-BASED LOCALIZATION WITH DISCRIMINATIVE FEATURES FROM HETEROGENEOUS VISUAL DATA:
▷ Writing of a large review of state-of-the-art methods for visual based localisation with heterogeneous data
▷ Designing of a new deep learned image descriptor for urban image retrieval in challenging condition by exploiting side geometric information
▷ Implementation of a innovative image pose refinement method based on both learned representation and geometric algorithms
- 10/16 - 09/19 **Assistant professor** ENSG engineering school, 77420 Champs-sur-Marne
ASSISTANT PROFESSOR FOR THE FOLLOWING COURSES:
▷ Practical introduction to augmented reality (master students)
▷ Computer graphics with OpenGL (master students)
▷ Introduction to object-oriented programming with python (master students)
▷ Programming in python (bachelor & master students)
- 10/15 - 09/16 **Research engineer** A.I.Mergence: robotic startup, 75013 Paris
COMPUTER VISION REFERRER IN A PROJECT OF HOME-SAFETY ROBOT.
▷ Technological watch on various computer vision related field, including: mapping, people recognition, tracking, multiple view imaging, depth camera
▷ Development of a stereo camera system for semantic object detection in a house
▷ Optimization and integration of vision algorithms on an embedded ARM device
- 03/15 - 09/15 **Master internship** ONERA, the French Aerospace Lab, 91120 Palaiseau
COLLABORATIVE LOCALIZATION AND FORMATION FLYING USING DISTRIBUTED STEREO-VISION:
▷ Relative pose estimation of in-flight UAV with a dynamic wide-baseline multiple view system
▷ Multi-modal and multi-sensor data fusion
▷ Introducing of a new control law for positioning of an UAV swarm
▷ Practical testing of the developed method in real condition

Languages

FRENCH

Mother tongue

ENGLISH

Fluent

SPANISH

Beginner

Driving

Driver's license holder

Interests

Robotic

Autonomous driving

Augmented reality

Publications

PEER-REVIEWED JOURNAL

N. Piasco, D. Sidibé, C. Demonceaux, V. Gouet-Brunet, [A Survey on Visual-Based Localization: On the Benefit of Heterogeneous Data](#), *Pattern Recognition, Volume 74*, February, 2018.

PEER-REVIEWED INTERNATIONAL CONFERENCES

N. Piasco, D. Sidibé, C. Demonceaux, V. Gouet-Brunet, [Perspective-n-Learned-Point: Pose Estimation from Relative Depth](#), *British Machine Vision Conference, Cardiff, United Kingdom*, 2019. **Spotlight presentation.**

N. Piasco, D. Sidibé, V. Gouet-Brunet, C. Demonceaux, [Learning Scene Geometry for Visual Localization in Challenging Conditions](#), *IEEE International Conference of Robotics and Automation, Montreal, Canada*, 2019. **Finalist nominated for the Best Paper Award in Robot Vision.**

N. Piasco, D. Sidibé, C. Demonceaux, V. Gouet-Brunet, [Geometric Camera Pose Refinement with Learned Depth Maps](#), *IEEE International Conference on Image Processing, Taipei, Taiwan* 2019.

N. Piasco, J. Marzat, M. Sanfourche, [Collaborative localization and formation flying using distributed stereo-vision](#), *IEEE International Conference on Robotics and Automation, Stockholm, Sweden*, 2016.

PEER-REVIEWED NATIONAL CONFERENCES

N. Piasco, D. Sidibé, V. Gouet-Brunet, C. Demonceaux, [Apprentissage de modalités auxiliaires pour la localisation basée vision](#), *Reconnaissance des Formes, Image, Apprentissage et Perception (RFIAP), Champs-sur-Marne, France*, 2018.

N. Piasco, D. Sidibé, V. Gouet-Brunet, C. Demonceaux, [Localisation Basée Vision : de l'hétérogénéité des approches et des données](#), *ORASIS - Journées francophones des jeunes chercheurs en vision par ordinateur, Colleville-sur-Mer, France*, 2017.