Assia Benbihi

Interests: 3D Computer Vision, Reconstruction, Mapping, Localization, SLAM, Scene Understanding
✉ assia.benbihi@gmail.com ✉ assia.benbihi@cvut.cz abenbihi.github.io github.com/abenbihi
References: Cédric Pradalier, Matthieu Geist, Torsten Sattler

Education

PhD, Computer Vision and Machine Learning *CentraleSupelec, UMI2958 GeorgiaTech-CNRS* Metz, France, 05/20
Master of Electrical and Computer Engineering *Georgia Institute of Technology* Atlanta, Georgia, 12/16
Master of Science in Telecommunication Engineering *Telecom SudParis* Paris, France, 06/15
Bachelor in Maths and Physics ('Classe prepa') *Lycee Hoche* Versailles, France, 06/13

Publications

A complete list is available abenbihi.github.io/#publications.

EdgeGaussians – 3D Edge Mapping via Gaussian Splatting K Chelani, A Benbihi, T Sattler, F Kahl, Preprint 2024
Obfuscation Based Privacy Preserving Representations are Recoverable Using Neighborhood Information K Chelani*, A Benbihi*, F Kahl, T Sattler, Z Kukelova Preprint 2024
Comparative Evaluation of Reconstruction Methods for Object Pose Estimation V Burde*, A Benbihi*, P Burget, T Sattler, Preprint 2024
Differentiable Product Quantization for Memory Efficient Camera Relocalization Z Laskar, I Melekhov, A Benbihi, S Wang, J Kannala ECCV24
Object-Guided Day-Night Visual Localization in Urban Scenes A Benbihi, C Pradalier, O Chum, ICPR 2022
Image-Based Place Recognition on Bucolic Environment Across Seasons From Semantic Edge Description A Benbihi, S Arravechia, M Geist, C Pradalier, ICRA 2020
ELF: Embedded Localisation feature in pre-trained CNN A Benbihi, M Geist, C Pradalier, ICCV 2019
Semantic Nearest Neighbor Fields Monocular Edge Visual-Odometry X Wu, A Benbihi, A Richard, C Pradalier
Semi-Supervised Domain Adaptation with Representation Learning for Semantic Segmentation across Time A Benbihi, M Geist, C Pradalier, ICONIP 2019

Experience

Postdoc Researcher in 3D Vision *(3D reconstruction, Localization, Scene Understanding) - CIIRC, Prague* 04/23-
Niantic *(Visual Localization) Research Intern* 07/22-11/22
Postdoc Researcher *(Localization and Mapping) CTU, Prague* 05/20-06/22
Thales *Research Software Engineer* 05/17-05/20
I develop a software prototype to automate visual inspection on low-contrast images with few features (**C++**).
Thales *Research Software Architect Intern* 01–07/16
I designed and developed a prototype of large-scale searchable encryption from a theoretical paper (**C++**).

Teaching and Supervision

Algoritms class: master level class at CVUT (description here)
Supervision: Bachelor, Master, PhD.

Honours

Outstanding reviewer: ICCV21, ECCV22, Neurips23
Andre Blanc-Lapierre Award; Fondation Mines-Telecom Award *Ranking: 2nd* 2016

Software

Nonexhaustive list of libraries/tools I am fluent with: COLMAP, OpenCV, Tensorflow, Pytorch, ROS, NerfStudio
Open Source Contribution
Goma (**C++** geometry library for vanishing point estimation, plane segmentation and image rectification)
WASABI (**Python**) Research code for image retrieval from semantic edge geometric features.
ELF (**Python**) Research code for image feature matching.
Scikit-learn (**Python**) Functional tests.

Leadership / Community Service

Website Chair 3DV 2022
Program Committee: CVPR, ICCV, ECCV, 3DV, ICRA, IROS, ICLR, NeurIPS