Artur **Jesslen**

PhD student

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RESEARCH

Our research lies at the intersection of Computer Vision, Machine Learning, and Computer Graphics. Our main goal is to develop generative vision models that enable to **reliably** perceive the world. Specifically, we study computer vision from a generative perspective, with the hypothesis that vision systems must develop a causal 3D understanding using an analysis-by-synthesis approach. Our research has demonstrated that these **generative vision models are robust**, efficient learners that can simultaneously solve various vision tasks.

PUBLICATIONS

- <u>Artur Jesslen</u>, Guofeng Zhang, Angtian Wang, Alan Yuille, and Adam Kortylewski (2023). *Robust object classification via render-and-compare with 3d-aware deep networks*. ***In review***.
- Jiacong Xu, Yi Zhang, Jiawei Peng, Wufei Ma, <u>Artur Jesslen</u>, Pengliang Ji, Qixin Hu, Jiehua Zhang, Qihao Liu, Jiahao Wang, Wei Ji, Chen Wang, Xiaoding Yuan, Prakhar Kaushik, Guofeng Zhang, jie liu, Yushan Xie, Yawen Cui, Alan Yuille and Adam Kortylewski (2023). *Animal3D: A Comprehensive Dataset of 3D Animal Pose and Shape*. ***In review***.
- Bingchen Zhao, Jiahao Wang, Wufei Ma, <u>Artur Jesslen</u>, Siwei Yang, Shaozuo Yu, Oliver Zendel, Christian Theobalt, Alan Yuille and Adam Kortylewski (2023). *OOD-CV-v2: An extended Benchmark for Robustness to Out-of-Distribution Shifts of Individual Nuisances in Natural Images*. ***In review***.

RESEARCH EXPERIENCE

Visual Computing and AI, MPI-INF
Sep. 2021 - Apr. 2022

3D Hand Pose Estimation from a Multiview Setup of RGB and Event Cameras. Supervisors: Dr. Vladislav Golyanik and Dr. Mathieu Salzmann

Visual Intelligence for Transportation, EPFL
Sep. 2020 - Feb. 2021

Generation of multi-modal distribution using cVAE for trajectory prediction. Supervisors: Prof. Alexandre Alahi

WORK EXPERIENCE

Midokura (Sony Group Company)
Barcelona, Spain

AI RESEARCHER
Feb. 2021 - Aug. 2021

Tailoring novel deep learning methods for embedded systems (with low power and memory, i.e. <16Mb) to perform pose estimation and people tracking by using different techniques such as Quantization Aware Training (QAT).

Ouay
Lausanne, Switzerland

FULL STACK WEB DEVELOPPER
Jul. 2019 - Feb. 2021

Creation and development of a client and server software for a voice-controlled device and corresponding iOS/Android applications. Program a browser (Javascript, jQuery), a server (PHP, Laravel) and a database (SQL).

EPFL-UNIL Entrepreneur Club
Lausanne, Switzerland

HEAD OF IT AND LOGISTICS
Oct. 2019 - Dec. 2021

Association creation, creation of the original website, logistics management.

EDUCATION

University of Freiburg
Freiburg, Germany

PHD STUDIES
2022 - Present

Affiliated with the Generative Vision and Robust Learning group lead by Dr. Adam Kortylewski and Prof. Thomas Brox's Computer vision group

MPI-INF
Saarbrücken, Germany

MSC EXCHANGE STUDIES
2021 - 2022

Master's thesis as a visiting student in Prof. Christian Theobalt's Visual Computing and Artificial Intelligence Departement.

EPFL
Lausanne, Switzerland

MSC IN ROBOTICS
2019 - 2022

Specialization in Mobile Robotics

NTU
Singapore, Singapore

BSC EXCHANGE STUDIES
2018 - 2019

3rd year of BSc in the school of electrical and electronic engineering as an exchange student

EPFL
Lausanne, Switzerland

BSC IN MICROENGINEERING
2016 - 2019

Multidisciplinary curriculum including mechanical and electronic engineering, materials science, and computer science

LANGUAGES

FRENCH
Mother tongue

ENGLISH
Full professional proficiency

GERMAN
Professional proficiency

ESTONIAN
Elementary notions

TEACHING

- Linear Algerba
- Calculus
- C++ Programming

REVIEWER EXPERIENCE

- 1 conference paper for NeurIPS (2022)
- 2 conference papers for CVPR (2023)
- 2 workshop papers for CVPRW (2023)
- 1 journal paper for IJCV (2023)
- 4 conference papers for ICCV (2023)