NATHAN ODIC

Master Student, Polytechnique Montréal

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EDUCATION

Master of Science September 2023 - Now
Polytechnique Montréal, Québec, Canada
Department of Computer Science
Advised by Prof. Lama Séoud
GPA : 3.85/4.0
Relevant coursework :

- IFT6135 - Representation Learning — A+
- INF8175 - AI : Methods & Algorithms — A

Diplôme d'Ingénieur **(Master of Science)** September 2021 - July 2023
École des Mines d'Alès, France
Department of Computer Science
Advised by Prof. Baptiste Magnier
GPA : 3.37/4.0
Relevant coursework :

- Computer Vision — A

French Preparatory Classes September 2019 - July 2021
Lycée Georges Clemenceau, Nantes, France
Mathematics and Physics
Intensive post-high school courses to enter France's "Grandes Écoles"
GPA : 4.0/4.0

RESEARCH EXPERIENCE

Graduate Research Student January 2024 - Now
VisionIC, Polytechnique Montréal, QC, Canada
A project led by the National Research Council (NRC) of Canada's METALTec R&D group. Worked solely on the segmentation of RGB-Depth images under occlusion across multiple cameras, followed by the 3D reconstruction of segmented objects. Proposed RGB-D baselines for one- and two-step segmentation, achieving over 10% improvement in performance compared to state-of-the-art RGB methods.
Led to two peer-reviewed publications in international conference and journal.

Graduate Research Student October 2021 - November 2023
EuroMov Digital Health in Motion, Université de Montpellier, IMT Mines Alès, France
Collaborative project with LIRMM, the joint research entity of the University of Montpellier, INRIA, and the French National Center for Scientific Research (CNRS). Worked in pairs on detection and tracking algorithms for fisheye videos. Developed a tracking algorithm that outperformed the state-of-the-art by over 2% while being twice as fast.
Led to two peer-reviewed publications in international conferences.

EMPLOYMENT

R&D ML Intern May 2023 - July 2023
SYD Digital Care, Nantes, France
Department of Customer Interaction
Case study on the use of machine learning in contact center solutions. Development of various solutions for contact centers (customer requests classification, satisfaction and emotion analysis) to ensure better customer care during a call.

ACADEMIC ACTIVITIES

Journal Reviewer: Robotics and Computer-Integrated Manufacturing.

Research Supervision: Supervised an undergraduate student for a research project (Summer 2024).

PUBLICATIONS

(* denotes equal contribution)

Manuscripts in Review:

SepInst: Separation-Aware RGB-D Instance Segmentation using Graphs 2025
Nathan Odic, S.H.H. Zargarbashi, Sabrina Jocelyn, Lama Séoud
IEEE Transactions on Image Processing - Impact Factor: 10.8 - CiteScore: 20.9
(In resubmission)

Peer Reviewed and Accepted:

MuViH: Multi-View Hand gesture dataset and recognition pipeline for human-robot interaction 2025
Corentin Hubert*, Nathan Odic*, Marie Noel, Sidney Gharib, S.H.H. Zargarbashi, Lama Séoud
Robotics and Computer-Integrated Manufacturing - Impact Factor: 9.1 - CiteScore: 24.1

Collaborative Robotic Finishing Platform for Metal Part Processing Towards Industry 5.0 2024
S.H.H. Zargarbashi et al.
IEEE International Conference on Mechanical and Aerospace Engineering (ICMAE) - Main Conference
(Accepted - To be published)

FORT: Fisheye Online Realtime Tracking with an Improved Kalman Filter 2023
Nathan Odic, Benoit Faure, Baptiste Magnier
IEEE 25th International Workshop on Multimedia Signal Processing (MMSP) - Main Conference

Performance of Recent tiny/small YOLO Versions in the Context of Top-view Fisheye Images 2022
Benoit Faure, Nathan Odic, Olfa Haggui, Baptiste Magnier
International Conference on Image Analysis and Processing - ISHAPE Workshop

SKILLS

Languages:

- French (Native)
- English (C1 — TOEFL 104/120)
- Spanish (B2)

Computer: Python, PyTorch, TensorFlow, C.