Etienne Perot

Machine Learning Engineer - Computer Vision

Education

2009–2010 **Master**, *University of Miami*, Miami, *Grade*.
Exchange Student - Biomedical - Electronics - Machine Learning

2005–2010 **Engineer Diploma**, *Ecole Polytechnique d'Orléans*, Orléans, *Grade*.
Master in Electronics-Optics

Experience

General Electric Healthcare

2021–Today **Senior Machine Learning Engineer**, *General Electric Healthcare*, Buc.
Working on coronary/vessel/pathologies segmentation, tracking in 3d volumes from Computerized Tomography Scans/ MRI Imagery, Advanced visualization.

Prophesee

2017–2021 **Senior Machine Learning Engineer**, *Prophesee*, Paris.
Working on Event-based Vision: sparse stream of points describing change in the scene called "events".
Detailed achievements:
- Design of Object Detector on event stream
- Design of Optical Flow Network/ Optimization-based
- Publication on RNN Object Detector accepted at NeurIPS 2020
- Publication on RNN Corner Detector accepted at CVPR 2021 event-based workshop (best paper award)
- Machine Learning API for event-based processing

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https://scholar.google.com/citations?user=LQt4CwMAAAAJhl=fr

Valeo

2011–2017 **Machine Learning Engineer/Expert**, *Valeo*, Paris.

Worked on Computer Vision and Machine Learning for Autonomous Driving. Awarded Valeo Expert and Team Leader.

Detailed achievements:
- Live Demonstration of Behavioral Cloning based Autonomous Driving at CES 2018; in a real car
- Live Demonstration of Reinforcement Learning based Autonomous Driving at CES 2017, in a video game (World Rally Championship): https://team.inria.fr/rits/drl/
- Publication on Deep Reinforcement Learning presented at CVPR
- Live Demonstration of Fully-Convolutional Semantic Segmentation. Demonstrated it on national French TV during a visit of Valeo site. I trained the system myself with Caffe.
- Achieved Embedded Deep learning Car/Pedestrian detection system in DSP C66x (went to production)
  - Worked at Weight Dynamic reduction;
  - Architecture simplification at training/inference time;

Altran

2010–2011 **ComputerVision**, *Valeo*, Paris.

External Engineer at Valeo.

Languages

English **Fluent**

Spanish **High School**

French **Native**

Computer Science skills

Speciality Computer Vision, Deep Learning

Languages Python, C++, C

APIs Torch, Numba

Publications

Maximilian Jaritz, Raoul de Charette, Marin Toromanoff, Etienne Perot, and Fawzi Nashashibi. End-to-end race driving with deep reinforcement learning, 2018.

Etienne Perot, Pierre de Tournemire, Davide Nitti, Jonathan Masci, and Amos Sironi. Learning to detect objects with a 1 megapixel event camera, 2020.

Ahmad EL Sallab, Mohammed Abdou, Etienne Perot, and Senthil Yogamani. Deep reinforcement learning framework for autonomous driving. *Electronic Imaging*, 2017(19):70–76, Jan 2017.

Mario Viti, Hugues Talbot, Bassam Abdallah, Etienne Perot, and Nicolas Gogin. Coronary artery centerline tracking with the morphological skeleton loss.

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