Mathis **Petrovich**

PhD Student at École des Ponts ParisTech (ENPC)

⚲ *3 september 1996 (25)*

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Education

École des Ponts ParisTech (ENPC) - IMAGINE team   *Marne-la-Vallée, France*
- PhD student in Computer Vision and Human body analysis
- Cosupervised by Gül Varol (ENPC), Mathieu Aubry (ENPC) and Michael J. Black (MPI)   *2020-2023*

École Normale Supérieure Paris-Saclay   *Cachan, France*
- Master 2 MVA (Mathematics/Computer Vision/Machine Learning) with (almost) highest honours   *2018-2019*
- Master 1 MPRI (Parisian Master of Research in Computer Science) with highest honours   *2017-2018*
- Third year of bachelor of Computer science (L3) with honours   *2016-2017*

Lycée Masséna   *Nice, France*
- Intensive 2-year course in preparation to sit the national competitive exams for admission to the French Grandes Ecoles   *2014-2016*

Lycée Saint-Louis   *Gignac-la-Nerthe, France*
- High-school diploma (Baccalauréat) with highest honours   *2014*

Computer skills

Prefered framework, lots of experience   Python 3, PyTorch, NumPy
Machine learning frameworks   PyTorch, PyTorch Lightning, some projects done in TensorFlow/Keras, Scikit-learn
Daily usage   Linux, Git, LaTex, working remotely (ssh), working on a cluster (slurm)

Research projects

Computer Vision and Human Body Analysis at ENPC and MPI (currently)   *ENPC France, MPI Germany*

I work in collaboration with two groups: the Imagine team of the ENPC/LIGM laboratory and the Perceiving Systems research group of MPI. My research focuses on the understanding and modeling of human motions. My first project consisted in generating action-conditioned 3D human motion sequences (**ACTOR**, ICCV 2021). I am currently working on generating human motions from textual descriptions.   *2020/2021*

Machine learning at RIKEN in the University of Kyoto (with Makoto Yamada)   *Kyoto University, Japan*

I worked in the High Dimensional Statistical Modeling Unit on two projects. The first one is Fast local linear regression with anchor regularization (**FALL**, arXiv 2020) and the second one is Feature Robust Optimal Transport for High-dimensional Data (**FROT**, arXiv 2020).   *9 months, October 2019/July 2020*

Computer Vision for Image Processing at DxO (with Wolf Hauser)   *Boulogne-Billancourt, France*

I built a system from scratch to create soft semantic masks on specific area (sky for example). This is used to apply local adjustments to a photograph (boost the saturation, apply micro contrast etc) in a realistic manner.   *6 months, April/September 2019*

Computer Vision at Carnegie Mellon University (with Martial Hebert)   *Pittsburgh PA, the US*

I helped to build and train deep learning models to try to handle occlusions for tracking (by detection) in videos. Combination of optical flow, CNN and LSTMs.   *5 months, March/July 2018*

Natural Language Processing at LIF (with Alexis Nasr)   *Marseille, France*

I have implemented a correction strategy model for a natural language parser parser. I used a multi-layer perceptron (MLP) to learn the prediction errors of the parser in order to correct them.   *2 months in Summer 2017*

Language spoken

French   Native   **English**   C1 Level (IELTS Band 7)