

# Charles RAUDE

**First Year PhD Student on Sign Language Video Understanding supervised by Gül Varol and Andrew Zisserman.**

## EDUCATION

**Double Degree: Msc. MVA (ENS Paris-Sclay) and Third year of Ecole des Ponts**

***Ecole Nationale des Ponts et des Chaussées, Champs-sur-Marne | 2019-***

École des Ponts ParisTech, created in 1747 under the name École Royale des Ponts et Chaussées, is a **higher education establishment that trains engineers to a high level of scientific, technical and general competency.**

Major in mathematics and computer science.

**Courses at MVA:** 3D Computer Vision, Object Recognition and Computer Vision, Convex Optimization and applications in machine learning, Computational Statistics, Image Denoising: the human machine competition, Introduction to digital imaging, Deep Learning in Practice, Deep Learning for Image Restoration and Synthesis, Algorithms for speech and natural language processing, Audio signal Analysis, Indexing and Transformations, Point Clouds and 3D modelling.

**Preparatory classes to grandes ecoles**

***Lycée Sainte-Geneviève, Versailles | 2017-2019***

MPSI/MP\*

**Baccalauréat Scientifique OIB-Japonais**

***Lycée International, Saint-Germain-en-Laye | 2015-2017***

French baccalaureate with the Japanese International Option, scientific stream. Awarded with honors

**Bilingual education**

***Ecole primaire, Collège, Lycée International, Saint-Germain-en-Laye | 2004-2017***

Japanese literature and history classes 8 hours every week

## WORKING EXPERIENCE

### RESEARCH INTERNSHIP

***Imagine team Ecole des Ponts, Champs-sur-Marne | April-September 2022***

Computer vision research project supervised by Samuel Albanie, Gül Varol and Andrew Zisserman on automatic sign language translation.

Exploration of data-driven machine learning models in combination with recent sign language data collections, especially video representation learning including self-supervised and semi-supervised learning with sign language videos.

Completed the first course at VisualLSF on french sign language (level A1.1)

### SUMMER RESEARCH INTERNSHIP

***Inria Willow, Paris | June-September 2021***

Research project at the verge of computer vision and linguistics, supervised by Justine Cassel, Ivan Laptev and Gül Varol, that focuses on gestures understanding. Curation of a large database of clips from instructional videos to look at how gestures can convey additional meaning to speech.

### CHARITY WORK

***Association Dévelop'Ponts, Champs-sur-Marne | 2019-2021***

Worked as a teacher (mainly in mathematics and physics) to refugees with the charity program PER of the Pont's society named Dévelop'Ponts

### SUMMER INTERNSHIP

***SACD, Paris | June 2020***

Dealt with protected works deposits and data extraction

## ACADEMIC PROJECTS

- Super-resolution from single natural image using a generative model (SinGAN).
- Action-conditioned 3D human motion synthesis using a transformer-based variational auto encoder architecture.
- Evaluation of CANINE: Pre-training an Efficient Tokenization-Free Encoder for Language Representation.
- Semantic Classification of 3D Point Clouds with Multiscale Spherical Neighborhoods.
- Denoise low light images using a pair of noisy images by combining the Learning to See in the Dark architecture with the Noise2Noise approach.

## CONTACT

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## SKILLS

### Languages:

**French & Japanese:**

bilingual

**English:** highly proficient, C1

(Cambridge Advanced Exam- 2017)

**Chinese:** intermediate (HSK3- 2016)

### Informatics:

**Programming:**

Python

C++

R

**Data Base:** SQL

**Other:** Microsoft Office's licence and Latex

### Open-minded:

Capacity to work and study in an international and multicultural environment

### Team spirit:

Capacity to work in group and use remote work tools

## OTHER

**Violin :** learned with Suzuki's method for over ten years

**Football :** played football for over ten years, member of Pont's football team

**Badminton :** member of Pont's badminton team