

# Hélène Tran

Ph.D student in Machine and Deep Learning

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*I have always been fascinated by Artificial Intelligence and enjoy understanding how it operates to mimic human behavior. I am also a considerate person who loves doing research in a way that it contributes to the well-being of our society.*

## EDUCATION

### Ph.D in Computer Science

Clermont-Ferrand, France | Apr 2021 - present

UNIVERSITY CLERMONT AUVERGNE - LIMOS LABORATORY

**Research Topic:** Automatic Multimodal Emotion Recognition using Facial Expression, Voice, and Text

For tasks related to the thesis, cf. **Jeolis Solutions** work experience.

### Master of Computer Science - Machine Learning and Big Data

Wollongong, Australia | Jul 2018 - Dec 2019

UNIVERSITY OF WOLLONGONG

**Coursework:** Computer Vision; Computational Intelligence; Machine Learning Algorithms; Big Data Analytics

### Software Engineering Degree

Evry, France | Sep 2016 - Oct 2020

ENSIIE ENGINEERING SCHOOL

**Coursework:** Statistics and Numerical Analysis; Object-Oriented Programming; IT Project Management

### Preparatory Classes for the Grandes Ecoles

Paris, France | Sep 2014 - Jun 2016

PAUL VALERY HIGH SCHOOL

**Coursework:** Intensive courses in Mathematics and Physics; Engineering Sciences; English

## WORK EXPERIENCE

### JEOLIS SOLUTIONS | ARTIFICIAL INTELLIGENCE PH.D STUDENT

Clermont-Ferrand, France | Apr 2021 – present

**Project:** Emo'LIS: Development of an automatic emotion recognition based on facial expression, voice, and text.

CIFRE contract between Jeolis Solutions company and LIMOS computer science laboratory

- Acquired the main concepts of emotional psychology
- Defined the **application cases** of the thesis with respect to the projects of the company
- Literature review of multimodal databases for emotion recognition
- Literature review of multimodal emotion recognition models (*ongoing*)
- Experimentation for the development of a new emotion recognition model (*ongoing*)
- Collaboration with three Master students working on emotion recognition

### GUERBET | DEEP LEARNING RESEARCH INTERN

Paris, France | Feb 2020 – Aug 2020

**Research Topic:** Prostate tumor classification based on multiparametric MRI

- Literature review of Deep Learning models for medical image and prostate cancer classification
- MRI images preprocessing and development of Deep Learning models in **Python 3.7** using **TensorFlow 2.0** and **scikit-learn** libraries
- Converted biopsy reports into structured data
- **Cloud computing** services with Microsoft Azure
- **Mendeley** for reference management

**Project:** Software Development of OnkoDICOM, an open-source platform for radiotherapy research based on the DICOM standard. Currently being used by Radiation Oncologists at the Illawarra Cancer Care Centre (Australia)

- Performed research on DICOM standard and radiomics for Machine Learning pipeline
- Designed the wireframes of the platform
- Developed the Front-End of OnkoDICOM in Python 3 using **PyQt5**, **matplotlib**, and **pydicom** librairies
- Scrum project management: weekly meeting with the SCRUM master and the product owner
- Used **Github**, **Redmine**, and **Slack** for collaborative work

## PUBLICATION

Hélène Tran, Lisa Brelet, Issam Falih, Xavier Goblet, & Engelbert Mephu Nguifo (2022). L'ambiguïté dans la représentation des émotions : état de l'art des bases de données multimodales. *Revue des Nouvelles Technologies de l'Information, Extraction et Gestion des Connaissances*, RNTI-E-38, 87-98. <https://editions-rnti.fr/?inprocid=1002719>

## CERTIFICATIONS

**Writing and publishing a scientific article**  
DEVELOPMENT RESEARCH INSTITUTE (IRD)

online (fun-mooc.fr) | Jun 2021

**Fundamentals of Deep Learning for Computer Vision**  
NVIDIA DEEP LEARNING INSTITUTE

Wollongong, Australia | Sep 2019

## SKILLS

**Machine Learning:** Scikit-learn, TensorFlow, Keras, Numpy, Matplotlib, Pandas

**Programming:** Python, C, Java

**Others:** Cloud Computing (Microsoft Azure), Git, Redmine, Mendeley, Agile Management, Django

## LANGUAGES

**English: Upper-intermediate.** *Having studied in Australia for one year and a half, I can easily read scientific papers and non-technical text. I speak English quite fluently.*

**French: Proficient.** *I practice French in my daily life, having lived in France for most of my life.*

## VOLUNTEERING

**Ph.D. activities:**

- Communication manager of Miners LinkedIn page (Data Mining research group of LIMOS)
- Part of the organizing board for the scientific days of doctoral students (Jun 2022)

**Other volunteering activities:**

- Programming workshop facilitator (Mar - Jun 2018) for Colombbus association in France. *Teaching programming through game development for high school students.*
- Treasurer and active member (Oct 2016 - Oct 2017), then President (Oct 2017 - Oct 2018) of HumanIIE association in France. *Organised and went on a trip to Nepal to teach the use of office softwares to high school students.*