

# Rachid Riad | Curriculum Vitae

6 rue de Nantes – 75019 Paris – France

☎ +33 666522141 • ✉ riadrachid3@gmail.com • 📄 rachine.github.io/

*Broadly, I'm interested in Speech and Language, Machine Learning, and Neuropsychology – and trying to make links between all three. My PhD project focuses on the automatic assessment of cognitive, linguistic, and emotional disorders, which affect the Speech Production of Huntington Disease's patients.*

## Education

<b>ENS - Paris Saclay</b>	<b>Cachan, FRANCE</b>
<i>Master of Science, Machine Learning and Computer Vision, with Honours</i>	<i>2016–2017</i>
Courses: Object recognition and Computer Vision, Modelization in Neuroscience, Numerical Imaging, Reinforcement Learning, Graphs in Machine Learning, Convex Optimisation, 3D points and modelization, Online Learning	
<b>Ponts Paristech</b>	<b>Paris, FRANCE</b>
<i>Engineering degree, Applied Mathematics and Computer Science,</i>	<i>2013–2017</i>
Computer Science (C++, Python), Spectral Analysis, Operational Research, Data Analysis, Machine Learning, Financial mathematics, Optimization	
<b>Lycée Pierre de Fermat</b>	<b>Toulouse, FRANCE</b>
<i>Preparatory classes</i>	<i>2011–2013</i>
<i>Preparatory classes for the highly competitive entrance exams to the Grandes Écoles</i>	
Intensive preparation in Math and Physics	

## Experience

Research.....	
<b>LSCP &amp; NPI, ENS</b>	<b>Paris, FRANCE</b>
<i>PhD student</i>	<i>Sept 2018–Aug 2021</i>
Supervised by Anne-Catherine Bachoud-Levi and Emmanuel Dupoux	
Speech and language processing toward precision neuropsychology for the Huntington Disease.	
<b>SPOClab, Vector Institute, University of Toronto</b>	<b>Toronto, Canda</b>
<i>Visiting Scholar</i>	<i>April 2018–September 2018</i>
Supervised by Frank Rudzicz	
Focus on Speech and Machine Learning for Health Behavior Informatics	
<b>Laboratoire de Neuropsychologie Interventionnelle(NPI), ENS</b>	<b>Paris, FRANCE</b>
<i>Research Engineer</i>	<i>October 2017–March 2018</i>
Supervised by Anne-Catherine Bachoud-Levi and Emmanuel Dupoux	
Building speech tools for Health Behavior Informatics	
Co-supervision of a M2 intern in Machine Learning and Speech Processing	

**Laboratoire de Science Cognitive et Psycholinguistique(LSCP), ENS** **Paris, FRANCE**  
*Research Intern* *April 2017–October 2017*  
 Supervised by Emmanuel Dupoux  
 Discovery of linguistic units from acoustic speech and multi-modal views

**Carnegie Mellon University's Language Technologies Institute** **Pittsburgh, USA**  
*Summer Research Intern* *June 2017–August 2017*  
 2017 Jelinek Summer Workshop on Speech and Language Technology, Rosetta Stone project,

**CERMICS applied Mathematics laboratory Ponts Paristech** **Paris, FRANCE**  
*Research Intern* *April 2014–August 2014*  
 Supervised by Bernard Lapeyre  
 Study of financial Mathematics model

Industry.....

**Mapjam** **San Francisco, USA**  
*Geo Software Engineer intern* *October 2015–August 2016*  
 o Building GIS Stack and complex mapping applications.  
 o 500 start-ups accelerator program

**Vehicle Data Science** **Oakland, USA**  
*Software Engineer intern* *September 2015–October 2015*  
 o Data visualisation with D3.js and Leaflet.js

**Bouygues Construction** **Paris, FRANCE**  
*Blue-Collar intern* *September 2013 – October 2013*  
 o Blue-collar work on a construction site

## Teaching

**ENS - Paris Saclay** **Paris, FRANCE**  
*Master of Science, Machine Learning and Computer Vision, Teaching Assistant* *2020*  
 Course: Algorithms for speech and natural language processing

**ENS - Paris** **Paris, FRANCE**  
*Master of Science, Cognitive Science master, Adjunct Lecturer* *2019*  
 Course: Data-science: Do-it-yourself!

**ENS - Paris Saclay** **Paris, FRANCE**  
*Master of Science, Machine Learning and Computer Vision, Teaching Assistant* *2019*  
 Course: Algorithms for speech and natural language processing

**ENS - Paris Saclay** **Paris, FRANCE**  
*Master of Science, Machine Learning and Computer Vision, Teaching Assistant* *2018*  
 Course: Algorithms for speech and natural language processing

## Talks, etc.

**Data Science week** **Paris, FRANCE**  
*Ponts Paristech* *February 2020*  
 Speech and Natural Language Processing

**SRPP seminar** **Paris, FRANCE**  
*Laboratoire de Phonétique et Phonologie, Sorbonne University* *April 2019*  
 Identification of primary and collateral tracks in stuttered speech

## Data Science week

Ponts Paristech

Discover linguistics units from acoustic speech and other modalities

Paris, FRANCE

February 2018

## Post-JSALT workshop

Univ. Grenoble Alpes (UGA)

Iterated unsupervised learning of acoustic and word units: a brief update

Grenoble, FRANCE

January 2018

## Languages

---

**French:** Native

**English:** Highly proficient in spoken and written

**Spanish:** Good working knowledge

## Computer skills

---

**Programming Languages:** Python, C++, bash    **Machine Learning:** Theano, Pytorch, Sklearn

**Web development:** HTML/CSS, JavaScript    **Visualisation:** D3.js, Leaflet.js, Praat, Audacity

**Databases:** SQL, Postgres/Postgis,    **OS:** Linux, Docker

## Hobbies

---

**Basketball:** Team Captain and practice of Basketball at regional level for 10 years

**Soccer:** Member of the Ponts Alumni Soccer Team

## Community service

---

- o Organisation of the career fair of three of the best engineering schools in France: this career fair hosts 3000 participants and has a 700k€turnover.
- o I have been part of the team elected at Ecole des Ponts to represent the students. I have organised the farewell trip for my school for 200 people, managing a 15-person team with a budget of 20k€.

## References

---

### Industry

- o Scollay Petry CEO of Mapjam
- o JD Margulici CTO of Infinite Uptime

### Academia

- o Pr. Emmanuel Dupoux
- o Pr. Anne-Catherine Bachoud-Levi
- o Pr. Frederic Meunier

## Publications

---

O. Scharenborg, L. Besacier, A. Black, M. Hasegawa-Johnson, F. Metze, G. Neubig, S. Stuker, P. Godard, M. Muller, L. Ondel, S. Palaskar, P. Arthur, F. Ciannella, M. Du, E. Larsen, D. Merx, **Rachid Riad**, L. Wang, and E. Dupoux, "Linguistic unit discovery from multi-modal inputs in unwritten languages: Summary of the "speaking rosetta" JSALT 2017 workshop," in *2018 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Calgary, Canada, April 2018. [Online]. Available: <http://www.phontron.com/paper/scharenborg18icassp.pdf>

**Rachid Riad**, C. Dancette, J. Karadayi, N. Zeghidour, T. Schatz, and E. Dupoux, "Sampling strategies in siamese networks for unsupervised speech representation learning," in *Nineteenth Annual Conference of the International Speech Communication Association*, Hyderabad, India,

September 2018. [Online]. Available: [https://github.com/rachine/sampling\\_siamese2018](https://github.com/rachine/sampling_siamese2018)

**Rachid Riad**, H. Titeux, L. Lemoine, J. Montillot, J. H. Bagnou, X. N. Cao, E. Dupoux, and A.-C. Bachoud-Lévi, "Vocal markers from sustained phonation in huntington's disease," in *Twenty-first Annual Conference of the International Speech Communication Association*, Shangai, China, October 2020. [Online]. Available: <https://github.com/bootphon/sustained-phonation-features>

O. Scharenborg, L. Besacier, A. Black, M. Hasegawa-Johnson, F. Metze, G. Neubig, S. Stüker, P. Godard, M. Müller, L. Ondel, S. Palaskar, P. Arthur, F. Ciannella, M. Du, E. Larsen, D. Merckx, **Rachid Riad**, L. Wang, and E. Dupoux, "Speech technology for unwritten languages," *IEEE ACM Transactions on Audio, Speech, and Language Processing*, vol. 28, pp. 964–975, Feb. 2020.

N. Holzenberger, M. Du, J. Karadayi, **Rachid Riad**, and E. Dupoux, "Learning word embeddings: unsupervised methods for fixed-size representations of variable-length speech segments," in *Nineteenth Annual Conference of the International Speech Communication Association*, Hyderabad, India, September 2018.

G. Neubig, M. Sperber, X. Wang, M. Felix, A. Matthews, S. Padmanabhan, Y. Qi, D. S. Sachan, P. Arthur, P. Godard, J. Hewitt, **Rachid Riad**, and L. Wang, "XNMT: The extensible neural machine translation toolkit," in *Conference of the Association for Machine Translation in the Americas (AMTA) Open Source Software Showcase*, Boston, March 2018.

H. Titeux\*, **Rachid Riad**\*, X.-N. Cao, N. Hamilakis, K. Madden, A. Cristia, A.-C. Bachoud-Lévi, and E. Dupoux, "Seshat: A tool for managing and verifying annotation campaigns of audio data," in *Twelfth International Conference on Language Resources and Evaluation (LREC 2020)*, Marseille, May 2020, \* Equal contribution.

**Rachid Riad**, A.-C. Bachoud-Lévi, F. Rudzicz, and E. Dupoux, "Identification of primary and collateral tracks in stuttered speech," in *Twelfth International Conference on Language Resources and Evaluation (LREC 2020)*, Marseille, May 2020.