

# RAHMA CHAABOUNI

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## EDUCATION

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### ENS Ulm/ Facebook AI Research

2018 - Present

*CIFRE PhD program*

Advisors: Emmanuel Dupoux (ENS Ulm), Marco Baroni (Facebook)

Subject: Emerging linguistic universals in communicating neural network agents

### Ecole Polytechnique

2015 - 2016

*M.S. in Data Science*

Courses include: High dimensional Statistics, Big Data Analytic, Kernel methods.

Projects include: Sentiment Analysis on the IMDB reviews. Mark (20/20), Actor clustering: Participating in the data challenge competition (Reminix problem). (3rd position).

### CentraleSupélec

2012 - 2016

*Diplôme d'ingénieur (MS equivalent) (GPA 3.9/4)*

Courses include: statistical machine learning, optimization.

Projects include: Ensignet – Advanced Marketing Attribution Modeling: Build models to improve Marketing attribution capacities. Mark (18/20).

### Workshops and Summer Schools

Emergent Communication: Towards Natural Language, co-located with the Neurips Conference, Vancouver

December 2019

BlackboxNLP, co-located with the ACL Conference, Florence

August 2019

LSA summer school, Davis

July 2019

Interaction and the Evolution of Linguistic Complexity, Edinburgh

June 2019

CommAI-env: An Environment for Communication-Based AI, co-located with the NIPS Conference, Barcelona

December 2016

## EXPERIENCE

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### Facebook AI Research

2017 (4 months)

*Research Intern* Subject: Build an agent to interact with the CommAI environment

Advisor: Marco Baroni

### ENS ULM

2016 (4 months)

*Research Intern* Subject: Learn a multimodal representation of the speech (speech, visual, articulatory)

Advisor: Emmanuel Dupoux

### Milliman – Predictive Analytics

2016 (5 months)

*Software Engineering Intern* Subject: Subject: Dynamic Neuron network: Boosting neural networks and develop an internal library for data mining (Pyspark)

### ABC arbitrage - Quantitative research

2015 (6 months)

*Software Engineering Intern* Subject: Machine learning and data mining involving the quantitative analysis of the financial environment to detect arbitrage situations

## AWARDS

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3-year Full Doctoral Funding, Facebook Paris	2018
Graduate Student Travel Grant, INETRSPEECH2017	2017
Excellence Scholarship: 3-year scholarship, Tunisian Ministry of Education	2012

## COMPUTER SKILLS

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<b>Languages</b>	Python (Pytorch library), R, Spark, Java, Matlab, Bash
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## PUBLICATION

### *Published work*

- [1] Eugeny Kharitonov\*, **Rahma Chaabouni\***, *What they do when in doubt: a study of inductive biases in seq2seq learners*, ICLR 2021. [pdf]
- [2] Mathieu Rita, **Rahma Chaabouni**, Emmanuel Dupoux, *Lazy and Impatient neural agents learn to communicate efficiently*. CoNLL 2020 (Oral). [pdf].
- [3] **Rahma Chaabouni\***, Eugeny Kharitonov\*, Diane Bouchacourt, Emmanuel Dupoux, Marco Baroni. *Compositionality and generalization in emergent languages*. ACL 2020 (Oral). [pdf]
- [4] Eugeny Kharitonov, **Rahma Chaabouni**, Diane Bouchacourt, Marco Baroni. *Information Minimization In Emergent Languages*. ICML 2020, [pdf]
- [5] Eugeny Kharitonov, **Rahma Chaabouni**, Diane Bouchacourt, Marco Baroni. *Information Minimization In Emergent Languages*. BAICS workshop (ICLR 2020) (Spotlight), [pdf]
- [6] **Rahma Chaabouni**, Eugeny Kharitonov, Emmanuel Dupoux, Marco Baroni. *Anti-efficient encoding in emergent communication*. NEURIPS 2019. [pdf]
- [7] Eugeny Kharitonov, **Rahma Chaabouni**, Diane Bouchacourt, Marco Baroni. *EGG: a toolkit for research on Emergence of lanGuage in Games*. EMNLP 2019 (Demo). [pdf]
- [8] **Rahma Chaabouni**, Eugeny Kharitonov, Alessandro Lazaric, Emmanuel Dupoux, Marco Baroni. *Word-order biases in deep-agent emergent communication*. ACL 2019 (Oral). [pdf]
- [9] **Rahma Chaabouni**, Ewan Dunbar, Neil Zeghidour, Emmanuel Dupoux. *Learning weakly supervised multimodal phoneme embeddings*. INTERSPEECH 2017 (Oral). [pdf]

### *Work in preparation*

- [10] **Rahma Chaabouni**, Eugeny Kharitonov, Emmanuel Dupoux, Marco Baroni, *Communicating artificial neural networks develop efficient color-naming systems*.
- [11] **Rahma Chaabouni\***, Roberto Dessi, Eugeny Kharitonov\*, *Can Transformers jump around right in natural language? Assessing performance transfer from SCAN*.

## ACTIVITIES

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Co-organizer: Bi-weekly writing club, LSCP ENS Paris	2020
Co-organizer: EmeCom Workshop, co-located with Neurips2020 [website]	2020
Co-organizer: Weekly reading group, CoML ENS Paris	2020
Organizer: Weekly team meeting, CoML ENS Paris	2019
Organizer: Monthly FAIR/DEC meeting	2019
Moderator: “Language learning in grounded environments” for the Olivier Legrain Conference “Artificial intelligence and Cognition”	2018

Co-organizer of the Olivier Legrain Conference “Artificial intelligence and Cognition” [website] 2018

Conference reviewer: LREC 2019, EMNLP 2020, CoNLL 2020, EACL 2020

## STUDENT SUPERVISION

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Mathieu Rita, Master student in Engineering, Ecole Polytechnique, France 2020 (*4 months*)

Charlotte Caucheteux, Master student in Engineering, Ecole Polytechnique, France 2019 (*4 months*)

Diego Andai Catilla Master student in Computer Science, Pontificia Universidad Católica de Chile, Chile 2018 (*4 months*)