

BASIC INFORMATION

Three PhD positions in emergent deep net communication

- **Data and project number:** 100% Positions funded by the ALiEN (Autonomous Linguistic Emergence in Neural Networks) project (European Research Council 2020 Advanced Grant nr. 101019291; PE6: Computer Science and Informatics panel), within the European Union's Horizon 2020 research and innovation program through an European Research Council 2020 Advanced Grant (grant nr. 101019291; PE6: Computer Science and Informatics panel).
- **Offer description:** We are offering three 4-year PhD positions within the ALiEN project. Doctoral students will form part of a team of 5-to-10 people, including the PI, several postdocs and other PhD students. Selected candidates will have competitive salaries and enjoy considerable freedom to lead basic research work within the framework of the project.

ALiEN (Autonomous Linguistic Emergence in Neural Networks) is an ERC-funded project investigating spontaneous communication in communities of deep neural networks, with the aim to improve their flexibility in solving complex AI tasks and the interpretability of their behavior.

The 5-year project will start in January 2022, and it will be run in the COLT group of Pompeu Fabra University (UPF) in Barcelona (Spain), under the supervision of Marco Baroni. Project funds support a considerable investment in a strong computational infrastructure exclusively dedicated to it.

Successful applicants should have an undergraduate degree in a field such as natural language processing, computer vision or machine learning. They should possess the ability to conduct original research, as demonstrated, for example, by a first-author publication or a senior thesis. They should be curious about deep net behaviour and the universal roots of communication. They should enjoy engaging in long-shot basic research and thrive in an environment that emphasizes friendliness and a good work-life balance over a competitive attitude.

COLT and UPF commit to a safe and inclusive research environment for all of its members. Women and people of marginalized communities are strongly encouraged to apply.

Note that the PhD program starts in the Fall quarter, but in exceptional cases we might offer a pre-doctoral contract to successful applicants who need to begin earlier than Fall 2022.

- **Research field:** Computer Science
- **Type of Contract:** Temporary
- **Job status:** Full-time
- **Researcher Profiles:** First Stage Researcher (R1)
- **Hours per week:** 37.5
- **Application Deadline:** Open until positions filled
- **Envisaged Job Starting Date:** September 2022; earlier in exceptional cases
- **How to Apply:** <http://marcobaroni.org/alien/>

REQUIREMENTS

- **Required Education Level:**
 - Main research field: Computer Science
 - Level: Master Degree or equivalent
- **Skills/Qualifications:**

Undergraduate degree with specialization in one or more of these fields:

 - Deep learning
 - Natural language processing
 - Computer vision
 - Reinforcement learning
 - Machine learning
- **Specific Requirements:**

Ability to conduct original research, as demonstrated, for example, by first-author publication or senior thesis
- **Required Languages:**
 - Language: English
 - Level: excellent
- **Required Research Experience:**
 - Research field: Computer Science