

## **Job opening: One postdoctoral fellowship on language emergence and acquisition in humans and machines (InfantSimulator ERC project)**

### **Job description**

The Cognitive Machine Learning team of the Ecole des Hautes Etudes en Sciences Sociales and Ecole Normale Supérieure (PSL University) seeks to recruit **one postdoctoral researcher** at the intersection between linguistics and AI to work within the ERC-funded **InfantSimulator** Project.

InfantSimulator investigates the mechanisms enabling young children to learn their native language(s), and do so apparently much more efficiently and robustly than current AI systems. The successful candidate will be integrated into a multidisciplinary team comprising language scientists, developmental psychologists, and machine learning experts.

They will develop quantitative methods to compare humans and current AI models (speech language models) in their ability to acquire a language based on the limited quantity and noisy data available to young children in real life. They will in particular examine the extreme case of language emergence in which the learner receives such a limited input that they develop a new (proto)language. The task will be to develop metrics or criteria to compare the properties of the emerging language to those found across the typology of human languages. If interested, candidates may participate in the teams' activities in (co)advising master and PhD students and/or teaching.

### **Research context**

The Cognitive Machine Learning (CoML) team, a vibrant team composed of 10-15 people at the heart of the Quartier Latin in Paris, was established 10 years ago by Emmanuel Dupoux with the aim to *reverse engineer* human learning abilities using AI techniques. The team is inserted internationally, in a network of academic and industrial collaborators (META FAIR, Google Brain, INRIA teams), and locally in the [Data Science Center](#) and in [Laboratory of Cognitive and Psycholinguistic Sciences \(LSCP\)](#), a CNRS research unit with expertise in language and baby science hosted in the interdisciplinary [Department of Cognitive Studies \(DEC\)](#) of the Ecole Normale Supérieure.

### **Requirements**

We expect candidates with a strong background in theoretical/typological/experimental linguistics (PhD level required), and at least basic skills in data science or machine learning (good command of high-level languages like Python or R). Familiarity with the language acquisition area would be a strong advantage. Excellent communication skills, team spirit, and an ability to work in autonomy are essential; open science experience is highly valued, as well as an appetite for multidisciplinary and the ability to think outside of the box. Fluent English, both spoken and written, is required.

### **Salary:**

The salary will be adjusted to the candidate's post-doctoral experience (salary range 2,400-3,000 euros/month net before income taxes).

**Start date:**

The position would start in the fall of 2025 or early 2026, is funded for **2 years**, and includes a relocation package.

**Applications and requests for information:**

Review of applications begins on **July 15, 2025**, on a rolling basis. Please send to [syntheticlearner@gmail.com](mailto:syntheticlearner@gmail.com)

- a complete CV,
- a 1-page cover letter explaining how you fit the requirements mentioned above,
- a 2-page research statement explaining the research directions you hope to explore in the next two years,
- a sample of your own writing (e.g., a publication you wrote),
- (a link to) a sample of computer code you produced
- contact information of two references

**Feel free to contact us for more information!**