

### **Vacancy: Pre-doctoral Research Assistant**

We are seeking to hire a pre-doctoral research assistant with strong data analysis skills to support a project on innovation and firm dynamics. This position provides an opportunity to develop and demonstrate proficiency in AI tools for economic analysis and to gain experience in academic research. It would be an ideal preparation for a Ph.D. program in economics or related fields. The successful candidate will report to Vasco Carvalho (University of Cambridge) and Lukas Freund (Columbia University).

#### **Responsibilities.**

- Collect, clean, and maintain datasets and databases (e.g., PatentsView, Compustat). Extract and link data from multiple sources for analysis, and prepare detailed documentation.
- Apply Natural Language Processing (NLP) techniques, including embedding methods (e.g., using Mistral's or openAI's embeddings API), dimensionality reduction (e.g., PCA, UMAP), and topic modeling.
- Perform statistical analysis, including regression analysis and Machine Learning (ML) techniques.
- Assist in the preparation and dissemination of research findings through reports, presentations, journal articles, and other outlets.

**Qualifications.** Applicants are expected to have the following:

- Completed bachelor's degree in economics, CS, or related fields.
- Exceptional skills in the areas of NLP and ML, with excellent coding ability in Python. Familiarity with other programming languages like Stata is a plus.
- Experience with data management, including the ability to handle large datasets and perform complex data extraction and transformation tasks.
- Familiarity with statistical tools such as linear regression models.
- Proven ability to work independently and as part of a collaborative research team, with strong organizational, time management and communication skills.

**Timeframe and pay.** Start date as early as October 1, 2024, for a duration of 3 months, at 10h-20h/week. Renewable depending on performance and project development. Remuneration at standard Cambridge University research assistant salary scales.

**How to apply.** Please submit CV and cover letter describing motivation, skills and experience [here](#).