Piano di formazione

Progetto
“University Research funding, Patenting and Technological Impact”

Research Project (Progetto di ricerca)

The research position (assegno di ricerca) is part of research project entitled “University Research funding, Patenting and Technological Impact”, funded by the European Patent Office Academic Research Programme. The project, conducted in collaboration with a team of researchers from the Politecnico di Torino, aims at analyzing the effects of public research funding to universities on subsequent patent activity.

The research line coordinated by the Department of Management of the University of Bologna has the objective to develop and validate new methodologies to identify the patents building on publicly funded research grants, focusing on the research grants awarded by the European Commission in a specific scheme of the FP7 programme. The new methodologies will be centred on the development of innovative algorithms to automatically reconstruct the grant-publications-patents linkages. This research line will be conducted in collaboration with the Department of Computer Science and Engineering of the University of Bologna.

Within such research line, the objectives of the research project undertaken by the new researcher (assegnista di ricerca) can be summarized as it follows:

1. Develop a new matching algorithm to identify patents that directly and indirectly build on specific research funding grants, leveraging on patent-to-publication citation information;
2. Based on that method, create a dataset of patents that build on a specific set of EU funded research grants (through the link with the correspondent publications)
3. Validate the precision of the new method by comparing the dataset of patents previously identified with the set of patents declared at the Funding Agency at the end of the projects.
4. Analyze the dataset in order to identify those factors that explain a research grant’s likelihood to generate new patents.

Activity plan (piano di attività)

The research program for the new researcher (assegnista di ricerca) will be structured in the following phases:

1. Literature review on matching algorithms to link patents and publications — In this phase the new researcher will perform a critical review of the existing literature, in the fields of computer science, informetrics and scientometrics, on the matching algorithms to link patents and scientific publications, and scientific publications and funding grants, with the aim to identify challenges, best practices and research gaps.

2. Matching algorithm development and data collection — In this phase, the new researcher should first identify the scientific publications resulting from a selected sample of FP7 EU funded projects (i.e. FP7 research grants funded by the European Research Council), based on information reported in the Acknowledgements section. In the second step, he/she will
identify patents that build on such EU-funded research articles, using patent-publication citation information. To this purpose, he/she will rely on information reported in the PATSTAT database. In order to that, the new researcher should develop an innovative matching algorithm to link patent and scientific publications, using information included in the non-patent literature cited in patents. In the third step, he/she will validate the performance of the new matching algorithm (also using information on patents declared at the Funding Agency as outcomes of the projects) and compare it with other possible approaches.

3. Data analyses — During the third phase of the training program, the new researcher will be involved in analyzing and elaborating the data collected in the previous phase. In a preliminary step, descriptive analyses will be undertaken in order to assess the characteristics of grants leading to patents. In a second step, regression analyses will be performed in order to investigate the critical factors which influence the funded projects’ likelihood to inspire the generation of patents. This part of the training program should be concluded with the drafting of (at least) one working paper based on quantitative analyses and the completion of a technical report.

4. Diffusion of research findings — In this final part of the research project, the new researcher will have the opportunity to present the working paper(s) at national/international scientific conferences in the fields of computer science/informetrics/economics and management of innovation in order to collect a feedback on his/her works and finalize submission of research articles to major scientific journals.