

Software developer and researcher for techno-economic software suite

About iMinds

iMinds (www.iminds.be) is an independent research organization whose task, assigned by the Flemish Government, is to encourage Innovation through excellent Digital Research. Along with strategic research programs, iMinds offers companies and organizations active support in research and development and, for that purpose, stimulates companies, authorities and non-profit organizations to work together on IT research projects. iMinds also offers programs to inspire, train and coach the next generation of IT entrepreneurs. The goal of iMinds' incubation & entrepreneurship program is to bring IT innovations to the market, either by helping to build and grow successful high-tech IT ventures or by driving innovation in industry partnerships and collaborative research.

***iMinds Research** consists of more than 850 researchers working at the 5 Flemish universities (Ghent, Leuven, Brussels, Antwerp and Hasselt). It is an international, multidisciplinary research environment with top talent coming from more than 50 countries throughout the world.*

Function description

Within iMinds projects, the viability of different ICT innovations is studied from different perspectives, in cooperation with a very broad range of industry and governmental actors. Previous partners include big companies like Alcatel-Lucent, Proximus, Deutsche Telekom, Nokia-Siemens Networks, Telenet; small and medium sized enterprises like Androme, BeMobile, Comsof, DigiPolis, OneAccess, Televic, ZapFi; as well as organizations and institutions like De Lijn, city of Ghent, TMVW, different hospitals, etc.

Within the IBCN research group at Ghent University/iMinds there is a long tradition of network design and planning research. Next to technical feasibility, economic viability of ICT network and service solutions has gained more and more importance in this domain. Therefore, a techno-economic software library has been developed within the IBCN group, allowing to perform an economic analysis of projects with a mid to long (>1y) planning horizon. The basis for this software suite is a conceptual time-linked structure and it has extensions aimed at gathering input data (e.g. evolutions of equipment prices, subscription prices, etc.), modelling hierarchically structured networks, equipment and operational processes, investment analysis and multi-actor analysis. It also includes more advanced analysis using either sensitivity,

real option theory or game theoretic analysis. Related to this, a business modelling and simulation tool brings together an intuitive interface for drawing out business models with a cost-benefit business calculator.

Job description

You develop software to evaluate and simulate techno-economic planning decisions in the domain of ICT networks and services.

- You acquire an elaborate knowledge of the ICT sector, via literature study as well as meetings with colleagues from university and companies in the field (Belgian and foreign telecom operators, service providers, network equipment vendors, regulators, etc.)
- You acquire some essential insights in economics on-the-job. Where relevant, you can follow specific courses in the faculty of economics or engineering.
- You are responsible for the further development of our Java-based techno-economic and business modeling software library based on new project and research needs.
- You model the strategies of the main actors in the telecom field like technology choice, price setting, net neutrality, market offer, willingness to pay, etc. and implement relevant scenarios in the software.
- You research the possibility to make (part of) the software suite available open source and support this process if relevant.
- You publish and present results both at international conferences and in scientific journals.

Profile

We are looking for candidates with the following qualifications and skills.

- Holder of a Master degree in Engineering (burgerlijk ingenieur) or Engineering Technology (industrieel ingenieur), with a strong interest in economic evaluation of technological projects.
- You have good knowledge of object-oriented programming in Java, web-based development and are familiar with software management.
- Strong analytical skills for designing and implementing abstract models.
- You work independently, have a strong feeling of responsibility and are able to commit to timing and milestones set forward by different research projects.
- You are a team player and have strong communication skills.
- A good knowledge of English (oral and written) is a must. Any knowledge of Dutch (oral) is a plus.

Job offer

We offer a challenging, stimulating, young and pleasant research environment where you can contribute to solving real-life problems for technological innovations with a clear societal as well as economic value. The work is done in close collaboration with ICT and telecom industry players. We foresee a competitive remuneration. Based on your own interest and motivation, a PhD trajectory in Engineering is a possibility.

More information

This job is offered within the techno-economic research unit (<http://www.technoeconomics.ugent.be/>) at IBCN. The research Group IBCN (Internet-based Broadband Communication Networks and Services - www.ibcn.intec.ugent.be) is one of the founding research groups of iMinds. It also belongs to the faculty of Engineering and Architecture at Ghent University.

Contact

If you are interested in this job opening and your profile corresponds to the description above, please send your resume as soon as possible to prof. Sofie Verbrugge and Mrs. Martine Buysse
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