PhD Researcher: Data Analytics and AI in Smart Home Technology and Energy Management

Company:
Vlerick Business School

Location:
Belgium / Ghent

Discipline:
Data Analytics and AI in Smart Home Technology and Energy Management

Employment Type:
PhD Researcher

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20/01/2025

Contact Person:
If you wish to apply for this position, please specify that you saw it on AKADEUS.

PhD Researcher: Data analytics and AI in smart home technology and energy management

Ghent, Brussels, Leuven, Belgium

Do you have a passion for business-relevant research and the ambition to obtain your PhD on the hot topic of creating business value with data analytics and AI? Do you have the right academic background, and are you ready to start this 4-year journey in our open, international and collegial environment? Let's meet!

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Vlerick Business School is an innovative, top-ranked and sustainable international business school in the heart of Europe. Our purpose is to **transform people for a better world!** We want being at Vlerick to be a transformative experience where you discover the knowledge, mindset and confidence you need to take your next leap – and become the entrepreneurial leader our world needs.

As part of our close-knit team and in **collaboration with Qbus**, you'll bring our strategy and purpose to life.

Since 1999, Qbus has been **developing and producing technologies to make residential and commercial buildings smart**. Think of the automation of lighting, sun blinds, HVAC, energy management, etc. This Qbus system is now running in more than 30,000 buildings in Belgium and abroad. Qbus is an international player with products of Belgian manufacture and is located in Erpe-Mere.

At Qbus, data is an important asset. A data-driven strategy has been defined based on a collaboration between Vlerick Business School and Qbus. We are looking for a business-oriented data analyst/scientist to **further define this strategy and execute data analytical projects in the organisation with academic rigour**.

Do you want to have an impact on a fast-growing company and help realize the strategic vision? Here's what you need to know!

Your mission

In this job, you will combine business relevance with the development of academic insights

Academic insight:

- Complete a 4-year PhD journey on data analytics and AI opportunities in smart homes and energy consumption.

- Conduct academic and applied research. This includes desk research, data collection, modelling, analysis and reporting.

- Disseminate knowledge by writing papers, reports, and articles, communicating on social media, organizing workshops for practitioners, and presenting research findings to both business and academic audiences.

- Conduct research in collaboration with faculty and other researchers.

- Provide support for the activities of the research area.

Business relevance:

- Be responsible for setting up the new Qbus Data Competence Center that builds on a set-out data and analysis strategy.

- Listen to business needs from different departments and translate these into data-driven solutions.

- Implement the first proof of concepts of descriptive analytics and automation projects (e.g. RPA) and educate other colleagues on how to leverage these tools.

- Develop more innovative projects based on machine learning, optimisation models and AI for innovative business problems that have academic relevance.

- Manage and maintain the data architecture in close collaboration with IT and eventually help guide the transition to a data warehouse.

- Offer training and support to colleagues to ensure that they can use tools and techniques to gain insights from data and grow as a company.

- Report directly to the CEO.

The research

Your PhD will investigate the added value of data analytics, optimisation models and AI in the field of **home automation and energy management**. This covers all functional domains from product development, marketing, and customer service to operations. More specific examples of these projects are:

- Improve and evaluate energy management models for electric vehicle charging, household heating, etc.

- Apply and evaluate generative AI technology to improve customer service handling.

- Improve customer insights and segmentation by leveraging natural language processing in combination with traditional market research.

Your research will always be in collaboration with business and includes understanding the state-of-the-art technologies, identifying business innovative research gaps, data collection and cleaning, the application of advanced data science models, reporting the results, translating this into insight and recommendations and reporting this work to an academic and business audience.

You

- Obtained a master's degree in business analytics, business engineering, artificial intelligence, data science, business administration, economics, computer science, civil engineering, statistics, mathematics, or equivalent.

- Have excellent qualifications throughout your studies. Distinctions (cum laude or higher) at bachelor and master levels are a plus.

- Have excellent communication skills and a business mindset, allowing you to easily switch between stakeholders at all levels.

- Can take up responsibilities and work independently.

- Are passionate about the topic, have a research mindset and great analytical skills.

- Have a good knowledge of data analytics and machine learning.

- Can programme and have experience with SQL and Python.

- Have experience in reporting with tools such as Looker, Power BI or similar.

- Ideally have experience with Amazon Web Services – it's a plus.

- Exhibit excellent written and verbal communication skills in English and Dutch.

- Have a proactive attitude, and don't shy away from presenting your findings to an academic and business audience.

- Work at the office of Qbus in Erpe-Mere, our Vlerick campuses in Brussels, Ghent or Leuven and from home.

#ProudtobeVlerick

- Autonomy and responsibility in an engaging work environment.

- Opportunities for professional and personal growth. Stay on top of important technology trends and further develop yourself in this field.

- A team of enthusiastic, driven colleagues, passionate about learning. We are genuinely interested in each other's opinions and have a positive mindset and a what-you-see-is-what-you-get mentality.

- Flexibility: 30+ holiday days, working from home, etc.

- A real impact on business and the planet due to more efficient energy management. Your knowledge, ideas and experiences are truly appreciated. You will get ownership of the data analytics & AI projects in the organization, supported by experts in the academic and business fields. Inspire people to live, learn and leap!

At Vlerick, **openness to the world** is part of our DNA. We are continuously working towards being a truly diverse, equitable and inclusive place to work and learn. So, no matter who you are, where you come from, or what your dreams are, we look forward to receiving your application.

Vlerick Business School is the hosting institute for this PhD journey with Philippe Baecke as your promoter.

Take the leap!

If you meet these criteria, please apply with your **resume**, **motivation letter**, and bachelor and master **transcripts** on our website. If available, please also add the results of your TOEFL or IELTS and your GRE score. Happy to give you more information on the job content: philippe.baecke@vlerick.com and/or the selection process and working at Vlerick: hr@vlerick.com.

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