



## **Vacancy: High-resolution urban overheating modelling**

B-Kode invites applications for an experienced urban overheating computer scientist, to work in the context of the [HORIZON CARMINE project](#). This project on “Climate Resilient Development Pathways in Metropolitan Regions of Europe” aims to bridge the local and regional scales by providing impact-based decision support services and multilevel climate governance supporting local adaptation, including both traditional and Nature-Based Solutions. The work performed in this vacancy will contribute to WP2 on “integrating climate physical risk assessment models and earth system processes” and will focus on developing very high-resolution models of urban overheating, combining physical-based modelling with advanced AI techniques.

### **Key Responsibilities:**

- Develop and implement high-resolution scaleable and transferable urban overheating models.
- Utilise machine learning algorithms to emulate and improve upon existing numerical models.
- Provide at-scale, fit-for-purpose information on local climate hazards and impacts, and data-driven adaptation and mitigation strategies.
- Analyse large datasets to extract meaningful insights related to urban overheating.
- Work collaboratively with the CARMINE partners in charge of integrating climate physical risk assessment models and earth system processes.

### **Essential Qualifications:**

- Masters / PhD in Machine Learning, Computer Sciences, Environmental Sciences, or a related field.
- Proficiency in numerical modelling and computer programming, with a strong emphasis on Python.
- Demonstrated experience in analysing large datasets.
- Excellent knowledge of climate sciences and urban meteorology.
- Ability to work independently with a solution-oriented mindset.
- Proven track record of creative, critical, and analytical thinking.
- Excellent command of English, both oral and written.

### **Preferred Qualifications:**

- Experience with high-resolution urban climate models, especially in the context of drivers of urban overheating and thermal comfort.

- Previous work emulating numerical models using machine learning approaches.
- Experience with cloud computing environments and code sharing repositories.
- Showing initiative and a commitment to further develop the idea of shaping a global collective focused on urban environmental analytics and sustainable urban development.

#### **General Conditions:**

- This is a freelance position starting June 2024, with a contract duration of maximum 2 years.
- Open to self-employed professionals globally allowing for remote collaboration.
- Opportunities for collaboration with leading international institutes and attendance at international conferences.
- Compensation will be on a project or task basis, competitive and commensurate with experience and qualifications.

#### **Application Procedure:**

- Please send a 1-paragraph motivation letter and professional CV in a single pdf to [matthias@b-kode.be](mailto:matthias@b-kode.be).
- Include in the email subject the reference Vacancy/CARMINE.
- Include in your CV contact information of two people that may be requested to send a reference if the application is shortlisted.
- Application deadline: 1 May 2024.
- The application procedure will remain open until the right candidate is found.

#### **About B-Kode:**

B-Kode ([www.b-kode.be](http://www.b-kode.be)), a Belgian-based company, is steadfast in its mission to furnish data-driven building blocks, analytics, and support services to forge a more sustainable and climate-resilient future. The company is adept in integrating technological advancements that are scientifically sound and foster urban sustainability and climate resilience. Its diverse portfolio encompasses projects that delve into high-resolution urban modelling, intricate analysis of Earth Observation data, and the application of AI-driven analytics to effectively tackle challenges related to urban heat, air quality, and the management of urban green spaces. Engaging in active collaborations with global partners and remote professionals, B-Kode is committed to establishing a worldwide collective of enthusiasts dedicated to urban environmental analytics, aiming to provide the building blocks for a better future.