



UNIVERSITY OF NAIROBI

EXTERNAL JOB VACANCIES (PROJECT POSITION)

Applications are invited for the following position:

SOFTWARE ENGINEER - CENTER FOR EPIDEMIOLOGICAL MODELLING AND ANALYSIS – AD/5/23/2025, 1 POST

The Position Description

The Center for Epidemiological Modelling and Analysis (CEMA) at the University of Nairobi is looking to appoint a **Software Engineer**, with passion and skills in software engineering as applied to health.

The role for this position is to develop and maintain the technological infrastructure needed to collect, analyze, and disseminate health data, by ensuring that the systems supporting health research are robust, scalable, secure, and user-friendly, facilitating data-driven insights, better decision-making, and ultimately improved public health outcomes.

About CEMA

CEMA is a Center of Excellence at the University of Nairobi bringing together a multidisciplinary consortium of epidemiologists, infectious disease specialists, medical and veterinary health professionals and clinicians, mathematicians, statisticians, computer scientists, software engineers, economists, and data scientists to harness data-driven approaches for controlling infectious diseases and advancing public health in Kenya and across Africa.

Established in 2020, CEMA's work has guided responses to the COVID-19 pandemic and other disease outbreaks and health crises, advanced the control and elimination of neglected tropical diseases across African countries, provided insights to optimize health programs and improve health outcomes, and provided training in quantitative skills to analyze health data and address critical public health challenges in Africa. CEMA is supported by multiple funding agencies including the Gates Foundation, Coalition for Epidemic Preparedness Innovations, the Wellcome Trust, among others.

Duty Station: Center for Epidemiological Modelling and Analysis, located at the University of Nairobi Institute of Tropical and Infectious Diseases, Nairobi, Kenya.

Reporting to: CEMA Co-Directors

Position Responsibilities

- Provide technical expertise to design, modify and maintain software applications and systems through coding, software testing and database interactions
- Utilize modern programming languages to build software to meet CEMA's requirements, including full-stack functional code development, implementing data integration and building APIs for data sharing
- Design databases to store large volumes of health data, ensuring data integrity, accessibility, and scalability

- Work alongside researchers to build software tools that enable data analysis, such as statistical modeling software, machine learning algorithms, or data mining tools
- Implement artificial intelligence (AI) or machine learning (ML) algorithms that can predict health outcomes, identify patterns in large datasets, or clinical decision-making in healthcare
- Optimize data processing algorithms, improving system performance, and reducing processing time
- Investigate reported issues with applications and systems and resolve these through critical thinking and debugging
- Work with cloud computing platforms (e.g., AWS, Google Cloud, Microsoft Azure) to store, process, and analyze these large datasets in scalable ways
- Build and manage data warehouses that consolidate data from multiple research studies or health systems
- Create website layout/user interfaces for CEMA's website by using standard HTML/CSS practices
- Maintain projects on CEMA's website including updating content and adding new pages as required
- Ensure new pages are published according to specification and in compliance with CEMA's web style guide
- Make sure the site's design is optimized for all screen sizes and strike a balance between useful and aesthetically pleasing design
- Overseeing the maintenance and management of the server to ensure optimal performance and security
- Provide ongoing support and maintenance for existing applications

Position Requirements

- i. Bachelors degree in Computer Science, Software Engineering, or a related field
- ii. Minimum of 5 years experience working as developer with proven experience in software development, including designing and building applications
- iii. Demonstrated experience of work on modern web applications
- iv. Proficiency in programming languages and development frameworks such as HTML, CSS with SCSS and JavaScript
- v. Experience with Javascript components libraries, TypeScript, responsive user interfaces for a wide range of devices and browsers, and with Git or other version control systems
- vi. Knowledge of cloud computing platforms (e.g., AWS, Google Cloud, Azure)
- vii. Knowledge of statistical packages (including R, Stata, SPSS or SAS)
- viii. Knowledge of securing health data and ensuring compliance with healthcare regulations
- ix. Strong written and verbal communication skills
- x. Experience with healthcare data
- xi. Ability to work in a team environment.
- xii. Strong analytical and organizational skills
- xiii. Curiosity about technology and a thirst to learn

Terms of Appointment

The appointment will be for one (1) year contract, renewable subject to performance and availability of funds. The successful candidate will enjoy a competitive salary based on their qualifications and experience. In addition to a fulfilling and challenging role, they will receive a comprehensive benefits package, including health insurance, leave allowance, and opportunities for professional development.

NOTES

1. Applicants should email their application letters, certified copies of certificates and curriculum vitae (CV) giving details of their qualifications, experience and three (3) referees, as well as indicating their telephone and e-mail contacts.
2. Applications and related documents should be addressed to the Director, Human Resource, University of Nairobi.
3. Applicants should state their current designations, salaries and other benefits attached to those designations.
4. The application letter must bear the reference code indicated in the advertisement.
5. Late applications will not be considered.
6. Applications should be emailed as one file in PDF to: recruit-softengineer@uonbi.ac.ke

CLOSING DATE: JUNE 4, 2025

**THE UNIVERSITY OF NAIROBI IS AN EQUAL OPPORTUNITY EMPLOYER
ONLY SHORTLISTED APPLICANTS WILL BE CONTACTED**