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Healthcare Scientist/ Software Engineer

UK Health Security Agency

Apply before 11:55 pm on Monday 24th February 2025



UK Health
Security
Agency

Reference number

390565

Salary

£40,661 - £50,472

Per annum, Pro rata

A Civil Service Pension with an employer contribution of 28.97%

Job grade

Senior Executive Officer

Contract type

Permanent

Business area

DAS

Type of role

Other

Working pattern

Flexible working, Full-time, Job share, Part-time

Number of jobs available

1

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Location

Birmingham, Leeds, Liverpool and London

About the job

Job summary

COVID-19 has highlighted the profound impact health threats can have on society and the economy, making health security a vital part of national security. The UK Health Security Agency (UKHSA) plays a leading role in health security, working internationally to strengthen global health safety, offering trusted advice to the government and public, and addressing health inequalities across communities.

UKHSA's mission is to protect the nation from infectious diseases and other health threats, with a focus on global and local levels. As the nation's expert health security agency, UKHSA is focused on five key areas:

- Prevent: Anticipating health threats and strengthening the nation's readiness and defences.

- Detect: Using advanced surveillance to monitor and detect infectious diseases and health risks.

- Analyse: Leveraging science and data analytics to assess and mitigate health risks.

- Respond: Taking swift, collaborative actions to address health threats.

- Lead: Fostering partnerships to protect public health and reduce inequalities.

UKHSA's top priority remains to safeguard UK against future threats.

The Digital and Data Directorate within UKHSA provides strategic leadership for managing data and analytical tools. Its Bioinformatics Division designs and maintains surveillance systems, ensuring accessibility and interoperability to improve health security outcomes, supporting lab services and whole genome sequencing.

We pride ourselves as being an employer of choice, where Everyone Matters promoting equality of opportunity to actively encourage applications from everyone, including groups currently underrepresented in our workforce.

UKHSA ethos is to be an inclusive organisation for all our staff and stakeholders. To create, nurture and sustain an inclusive culture, where

differences drive innovative solutions to meet the needs of our workforce and wider communities. We do this through celebrating and protecting differences by removing barriers and promoting equity and equality of opportunity for all.

Job description

Software development is key to ensuring our systems are robust and scalable. We are looking for a highly capable, versatile software developer to support the establishment and deployment of robust and often novel analytical pipelines. Most of our systems to date are written in Python, but we recognize potential advantages in migrating to C#, C++, Java and F#. We also require interfaces using modern web technologies & frameworks, so we have a broad range of software development challenges for the right person. This is an ideal role for someone who is self-motivated and enjoys working in interdisciplinary teams. This is also an opportunity to work in a broad, collaborative project at the cutting edge of infectious disease genomics.

Communication and key working relationships

Internal

- Responsible to the Head of WGS Software Development
- Bioinformatics Unit, contribute to NGS activities ongoing within the unit as required
- Genomic Services and Development Unit, interactions with laboratory staff to liaise over NGS sequencing activity in general and robotics/LMS interoperability specifically
- Bioinformaticians embedded in other units, provide advice on best practice in software engineering
- Scientists engaged in development of NGS sequencing projects
- Bioinformaticians working in the Medical and Genomics Directorate and on the COVID-19 response

External

- Scientists at the Oxford Nuffield Department of Clinical Medicine, ongoing support and development of the TB whole genome sequencing pipeline
- Mycobacteriology Reference Laboratory- Birmingham, support for TB pipelines
- Collaborators on projects at other institutes and academic centres
- Scientist at CLIMB and the COG-UK consortium

Academics and Bioinformaticians in the Devolved Administrations

Key Responsibilities

- To support the migration of current analytical pipelines processing NGS data to robust, scalable software architecture, meeting recognised acceptable software standards
- To write new programmatic algorithms for more efficient and novel ways of processing data and its interpretation.
- To contribute to the scoping of tools and methodologies for analysis of molecular data in conjunction with other metadata such as epidemiological and clinical information.
- To develop and distribute best practice software development and testing for bioinformatics activities across the organisation.
- To devise best practices and establish standards for analysis and dissemination of new technological developments that may have an impact on public health.
- To contribute to the development of the means to disseminate the results from bioinformatics analyses including web-based delivery
- To be involved with the scoping of bioinformatics tools and methodologies for analysis of molecular data in conjunction with other metadata such as epidemiological and clinical information
- Write and distribute regular project update reports and to provide training and deliver presentations as required.
- To take part in quality procedures and audits for accreditation

Health & Safety

- To comply with safety policies, ensure that health, safety and welfare is an afforded priority over other issues and to work in a safe manner.
- Work in a safe manner

Quality

- Ensure that the data within UKHSA databases meet the highest standards of quality to meet clinical and public health needs.
- Contribute to internal and external quality assurance programmes

Risk Management

- To assist line management in ensuring that appropriate risk management controls are implemented and maintained within area of responsibility, and that new risks are identified and raised as appropriate

Other

The above is only an outline of the tasks, responsibilities and outcomes required of the role. You will carry out any other duties as may reasonably be

required by the directorate.

The job description and person specification may be reviewed on an ongoing basis in accordance with the changing needs of the organisation.

Professional Development

You should pursue a programme of continuous professional development in accordance with any relevant professional registration or statutory requirements, while maintaining appropriate awareness of service provider requirements

Person specification

You will be assessed on the below 10 essential criteria, which have been selected from the Job Description

Higher degree (i.e., MSc or above) in preferred in scientific fields like Applied Mathematics, Chemistry, Physics, Biochemistry, Biomedical Engineering, Bioinformatics, Electrical Engineering or Computer Science

Experience of contributing to large and complex software solutions

Experience of developing software for distributed computer resources

Experience in industry or academia of delivering multi-disciplinary projects within deadlines

Proficient in Python

Proven ability to write software documentation

Confident in a Linux environment

Proficient in using git (including continuous integration)

Experience in working with Postgres or other relational databases

Experience with Python web frameworks like Django or Flask

Benefits

Alongside your salary of £40,661, UK Health Security Agency contributes £11,779 towards you being a member of the Civil Service Defined Benefit Pension scheme. [Find out what benefits a Civil Service Pension provides.](#)

Learning and development tailored to your role

An environment with flexible working options

A culture encouraging inclusion and diversity

A Civil Service pension with an employer contribution of 28.97%

Things you need to know

Selection process details

Selection Process:

This vacancy is using Success Profiles and will assess your Behaviours, Strengths, Experience and Technical skills.

Stage 1: Application & Sift

Success profiles

You will be required to complete an application form. You will be assessed on the 14 essential criteria and this will be in the form of

An application form (Employer/ Activity history section on the application)

a **1500** word Statement of Suitability.

This should outline how you consider your skills, experience, and knowledge, provide evidence of your suitability for the role, with reference to the essential criteria.

The application form and Statement of Suitability will be marked together.

Longlisting: In the event of a large number of applications we will longlist into 3 piles of:

Meets all essential criteria

Meets some essential criteria

Meets no essential criteria

In order to be shortlisted you must meet all and some of the essential criteria listed above.

Shortlisting: In the event of a large number of applications we will shortlist on

Proficient in Python

Please do not exceed 1500 words. We will not consider any words over and above this number.

Feedback will not be provided at this stage.

Stage 2: Interview (success profiles)

You will be invited to a (single) remote interview.

Behaviours, technical and strengths will be tested at interview.

There will be a Technical Test

The Behaviours tested during the interview stage will be

- Seeing the Big Picture
- Communicating and Influencing
- Delivering at Pace
- Managing a Quality Service
- Developing Self and Others

Once this job has closed, the job advert will no longer be available. You may want to save a copy for your records

Location

This role is being offered as hybrid working based at any of our Core HQ s. We offer great flexible working opportunities at UKHSA and operate using a hybrid working model where business needs allow. This provides us with greater flexibility about how and where we work, to get the best from our workforce. As a hybrid worker, you will be expected to spend a minimum of 60% of your contractual working hours (approximately 3 days a week pro rata, (averaged over a month) working at one of UKHSA's core HQ s (Birmingham, Leeds, Liverpool, and London) Our core HQ offices are modern and newly refurbished with excellent city centre transport link and benefit

from benefit from co-location with other government departments such as the Department for Health and Social Care (DHSC).

Reasonable Adjustments

The Civil Service is committed to making sure that our selection methods are fair to everyone.

To help you during the recruitment process, we will consider any reasonable adjustments that could help you.

An adjustment is a change to the recruitment process or an adjustment at work.

This is separate to the Disability Confident Scheme.

If you need an adjustment to be made at any point during the recruitment process you should:

Contact the recruitment team in confidence as soon as possible to discuss your needs.

You can find out more information about reasonable adjustments across the Civil Service here: <https://www.civil-service-careers.gov.uk/reasonable-adjustments/>

International Police check:

If you have spent more than 6 months abroad over the last 3 years you may need an International Police Check. This would not necessarily have to be in a single block, and it could be time accrued over that period.

Artificial Intelligence (AI)

Your application may be rejected and/or you may be subject to disciplinary action if evidence of plagiarism is detected. Examples of plagiarism can include presenting the ideas and experience of others, or generated by artificial intelligence (AI), as your own.

Careers website:

Please visit our careers site for more information <https://gov.uk/ukhsa/careers>

Feedback will only be provided if you attend an interview or assessment.

Security

Successful candidates must undergo a criminal record check.

People working with government assets must complete [baseline personnel security standard \(opens in new window\)](#) checks.

Nationality requirements

This job is broadly open to the following groups:

UK nationals

nationals of the Republic of Ireland

nationals of Commonwealth countries who have the right to work in the UK

nationals of the EU, Switzerland, Norway, Iceland or Liechtenstein and family members of those nationalities with settled or pre-settled status under the [European Union Settlement Scheme \(EUSS\) \(opens in a new window\)](#)

nationals of the EU, Switzerland, Norway, Iceland or Liechtenstein and family members of those nationalities who have made a valid application for settled or pre-settled status under the European Union Settlement Scheme (EUSS)

individuals with limited leave to remain or indefinite leave to remain who were eligible to apply for EUSS on or before 31 December 2020

Turkish nationals, and certain family members of Turkish nationals, who have accrued the right to work in the Civil Service

[Further information on nationality requirements \(opens in a new window\)](#)

Working for the Civil Service

The [Civil Service Code \(opens in a new window\)](#) sets out the standards of behaviour expected of civil servants.

We recruit by merit on the basis of fair and open competition, as outlined in the Civil Service Commission's [recruitment principles \(opens in a new window\)](#).

The Civil Service embraces diversity and promotes equal opportunities. As such, we run a Disability Confident Scheme (DCS) for candidates with disabilities who meet the minimum selection criteria.

Diversity and Inclusion

The Civil Service is committed to attract, retain and invest in talent wherever it is found. To learn more please see the [Civil Service People Plan \(opens in a new window\)](#) and the [Civil Service Diversity and Inclusion Strategy \(opens in a new window\)](#).

Apply and further information

The Civil Service welcomes applications from people who have recently left prison or have an unspent conviction. [Read more about prison leaver recruitment \(opens in new window\)](#).

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Contact point for applicants

Job contact :

Name : Vijender Singh

Email : vijender.singh@ukhsa.gov.uk

Recruitment team

Email : recruitment@ukhsa.gov.uk

Further information

The law requires that selection for appointment to the Civil Service is on merit on the basis of fair and open competition as outlined in the Civil Service Commission's Recruitment Principles. If you feel your application has not been treated in accordance with the Recruitment Principles, and you wish to make a complaint, in the first instance, you should contact UKHSA Public Accountability Unit via email: Complaints@ukhsa.gov.uk If you are not satisfied with the response you receive from the Department, you can contact the Civil Service Commission: Visit the Civil Service Commission website: <https://civilservicecommission.independent.gov.uk/>

