Candidate Information

Position: Research Fellow Bioinformatics (Future Medicines Institute)
School/Department: Faculty Office MHLS
Reference: 25/112417
Closing Date: Monday 10 March 2025
Salary: £39,222 - £43,605 per annum
Anticipated Interview Date: Thursday 20 March 2025
Duration: 12 months

JOB PURPOSE:

The post holder will develop bioinformatics tools, workflows, and cloud-based infrastructure to support genomics and multi-omics data analysis across FMI projects. Working closely with biologists, bioinformaticians, and software developers, this role focuses on integrating advanced computational methods with scalable cloud platforms to streamline data processing, analysis, and sharing. The successful candidate will have a strong foundation in software engineering, data engineering, and cloud computing, with a proactive attitude and eagerness to collaborate in a multidisciplinary team environment.

MAJOR DUTIES:

1. Design and implement scalable cloud-based infrastructure for genomics data processing and storage.
2. Develop bioinformatics pipelines and workflows for genomics and proteomics datasets (e.g., RNA-seq, single-cell RNA-seq, exomes, and CRISPR screens) using cloud-native tools.
3. Create and optimise software tools for data integration, analysis, and visualisation in genomics and multi-omics.
4. Automate data workflows for large-scale genomics and proteomics datasets.
5. Deploy containerised applications and tools using technologies such as Docker and Kubernetes.
6. Develop APIs and web-based interfaces for efficient data sharing and collaboration among FMI partners.
7. Maintain up-to-date knowledge of cloud platforms (e.g., AWS, Azure, GCP) and implement cost-effective solutions.
8. Support the FMI team in integrating public domain datasets and creating bespoke cloud-based solutions.
9. Collaborate with FMI partners to develop customised cloud architectures tailored to specific projects.
10. Write technical documentation, contribute to publications, and support grant applications as required.
11. Present regular progress updates to the FMI team and external collaborators.
12. Carry out routine administrative tasks associated with the research project/s to ensure that project/s are completed on time and within budget. These might include organisation of project meetings and documentation, financial control, risk assessment of research activities.
13. Carry out occasional undergraduate supervision, demonstrating or lecturing duties within the post holder's area of expertise and under the direct guidance of a member of academic staff.
14. Read academic papers, journals and textbooks to keep abreast of developments in own specialism and related discipline.
15. Carry out any other duties designated by a line manager and which fall within the general ambit of the post.

ESSENTIAL CRITERIA:

1. Degree in computer science, bioinformatics, data engineering, or a related discipline.
2. Have or be about to obtain* a relevant PhD.(must be obtained within 3 months of date of interview).
3. Significant, relevant research experience.
4. Demonstrated experience in designing and deploying scalable cloud-based infrastructures (AWS, Azure, GCP).
5. Proficiency in bioinformatics pipeline development (e.g., RNA-seq, single-cell RNA-seq, exomes).
6. An expert level user of HPC infrastructure / Linux systems.
7. Able to implement key R and / or Python packages.
8. Track record of publications commensurate with stage of career.
9. Experience of project supervision.

10. Ability to plan and manage own workload and contribute to requisite administrative tasks.
11. Ability to design and maintain secure cloud architectures.
12. Sufficient breadth and depth of specialist knowledge in the discipline and of research methods and techniques to work within established research programmes.
13. Ability to work across multidisciplinary teams.
14. Ability to communicate complex information clearly.
15. Ability to build contacts and participate in internal and external networks.
16. Ability to assess and organise resources according to adjusting priorities.
17. Team player, proactive, highly motivated and supportive of other team members.
18. Interest in driving research focussed programmes.
19. Willingness to travel to partner sites and collaborate with industry partners.

DESIRABLE CRITERIA:
1. Bioinformatics experience in an academic or industrial setting.
2. Experience in working within industry
3. Experience working with proteomics datasets.
4. Data handling expertise e.g. cloud storage and SQL.
5. Experience developing and deploying machine learning workflows in cloud environments.
6. Experience developing web applications and APIs for bioinformatics tools.

ADDITIONAL INFORMATION:
Informal Enquiries Sinead Cahill: sinead.cahill@qub.ac.uk