Synomics Ltd

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Senior Bioinformatician

Location:	Copenhagen, Denmark
Type:	Full time, permanent
Job Ref #:	SYN-SBIO-11/21
Reporting to:	Haja Kadarmideen, CTO

Introduction

Synomics is transforming agri-food and companion animal industries by improving animal and crop health and production efficiency, and the economics and sustainability of the entire production value chain for multiple species.

Our platform is a revolutionary advance in the analysis of high-throughput multiomic (genotype, phenotype, transcriptome microbiome, metagenome, epigenetic) and environmental data to accurately analyse and predict key relevant disease and performance traits, and deliver healthier plants and animals and more sustainable food production. Our technologies are equally applicable to pet health and nutrition.

We're a rapidly growing AI-enabled genomics, breeding and precision agriculture company with international offices, global ambition and partnerships with some of the largest international breeding companies and research institutes.

We are headquartered in Oxford, UK with offices in Copenhagen, Denmark and Madison, WI. We were founded by a diverse team of highly experienced animal production & health, genomics, breeding, bioinformatics and AI leaders. Our main investor is Wheatsheaf Group Ltd, part of the Grosvenor Estate, which directly operates, invests in and helps develop innovative businesses in the food and agriculture sectors (www.wheatsheafgroup.com).

We have a fantastic opportunity for a senior bioinformatician to join our team, reporting to our CTO, Professor Haja Kadarmideen. We are looking for someone with a broad domain understanding who is comfortable working with multiomic data across a range of species (livestock, crops, pets, humans) datasets. The ideal candidate will have relevant expertise and experience in bioinformatics, data science and computational (systems) biology.

The main responsibilities will involve identifying and interpreting novel associations within large, multi-dimensional phenotypic, pedigree, genetic / genomic and other-omic datasets. These will include genome, transcriptome, epigenome and metagenomesequencing datasets as well as deep phenotypic datasets. For example, feed intake, growth, yield, quality, fertility, activity, imaging, longitudinal disease episodes, , pedigree & breeding records and other phenotype datasets as relevant across animals, plants and fish. Furthermore, post-processing of genetic features and omics targets using various biological, annotation and pathway databases and bioinformatic tools will be required.

The ideal candidate will have a keen interest in creating molecular and biological insights and value from complex data, a good knowledge of plant and/or animal biology and a passion for identifying and answering questions that help us solve real-world problems and build the best products.

This is an exciting opportunity to help shape the direction of the business as a key member of the team and to help accelerate technology change, improve animal production and reproduction efficiency, health & welfare and reduce carbon emissions across a globally significant industry.

Due to the type of work we undertake, a high proficiency in data science is required. The ideal candidate will have demonstrable, commercial software development experience.

Responsibilities

Key responsibilities of the role include, but are not limited to:

- Solving real-world problems by using appropriate data analysis of genomic, epigenetic, transcriptomics, epigenomic, metagenomic and other omics data collected in field / farms and in experiments along with phenotypic measurements across a range of crop, livestock, companion animal and aquaculture species.
- Ascertaining quality of design of experiments and collected omics data (often NGS based low pass sequencing), conducting genome assembly / alignment, initial QA & QC, pre- and post-mapping QA & QC, normalization, SNP calling, novel transcripts, metagenomic counts/methylation patterns, peak calling, pathway and gene set enrichment analyses etc.
- Driving the collection, cleaning and verification of new data and the refinement of existing data sources
- Developing (automated) workflows and pipelines for high-quality analysis for genomics datasets as well as other omics data types
- Applying standard bioinformatics, machine learning and AI tools in the data analyses and feature discoveries.

- Performing biological and functional interpretation of results and targets produced by statistical genetics, quantitative genetics, bioinformatics and machine learning/AI tools
- Working closely with geneticists and statisticians, delivering validated targets, biomarkers and genetic variants for further downstream applications (e.g. drug discovery, genetic improvement and product development)
- Analysing, interpreting and reporting the results of commercial customer projects to leading agri-genomic, health and production companies

Due to the nature of our business, this job description is not exhaustive and will be subject to change to meet the changing needs of the business.

Key Requirements

- PhD in bioinformatics or computational biology, systems biology or closely related field and/or significant experience in a relevant (ideally commercial) role
- A qualification in data science, software development, etc. is preferable
- Experience in analysis of WGS/WES and array-based genomics datasets
- Comfort in manipulating and analyzing complex, high-volume, high-dimensionality data using a range of bioinformatic, statistical, data science (AI and Machine Learning) techniques and workflows.
- Knowledge or experience in other NGS datasets such as epigenome or transcriptome or metagenome analysis (e.g. WGBS/RRBS, RNASeq, 16s rRNA) and interpretation problems
- Knowledge or experience in creating bioinformatic databases or tools in order to conduct biotechnological research & development
- Proficiency with the use of publicly available data repositories including key agricultural species (i.e. NCBI, EMBL, GTEx, OMIA, AnimalTFDB, AnimalQTLdb, Genome Browsers etc)
- Demonstrated computational analysis experience including coding in Python and/or R and Linux shell programming.
- Knowledge and / or ability to work with various relational database management system (RDMS including SQL/Oracle) so that it can be made accessible for geneticists, biocurators and systems biologists
- Proficiency with systems biology and genomics tools (e.g. WGCNA, Cytoscape, Copasi, Matrix eQTL, KruX QTL, ENSEMBL, Panther, KEGG, Gene set enrichment / pathway analyses etc) would be a strong plus
- Experience working with distributed High Performance Computing (HPC) platforms and cloud computing tools would be a plus

- A strong passion for empirical research and for answering hard questions with data
- A flexible analytic approach that allows for results at varying levels of precision
- Ability to communicate complex quantitative analysis in a clear, precise, and actionable manner

Key Attributes

We're looking for a highly-motivated individual who thrives working in a high-paced, flexible environment, is inspired by the opportunity to make a difference to the world and possesses the following attributes:

- Good communication and presentation skills with fluent English (min. of equivalent of CEFR level C1)
- Confidence to make suggestions and influence change
- Ability to work well to deadlines, while paying attention to detail and accuracy
- Ability to work in a diverse team of geneticists, data scientists, bioinformaticians, breeding specialist, software / IT specialists and business support across multiple domains/species
- Strong customer service focus and the ability to build close working relationships
- Flexible approach to working
- Personal integrity and discretion

What We Offer

- Competitive salary
- Standard holiday and benefits packages
- Innovative suite of rewards
- Excellent career development opportunities in a fast-growing international organisation

Application Process

- Please submit cover letter, your CV, and publication list (if relevant) to synomics@singulartalent.io
- This position is available for immediate start after interviews

Please mention the job reference number in the cover letter and subject line of your email when applying.

Synomics is a collaboration between Wheatsheaf Group Ltd and PrecisionLife Ltd. Wheatsheaf Group directly operates, invests in and helps to develop businesses in the

food and agriculture sectors. PrecisionLife is an AI enabled precision medicine company, which is ISO27001 accredited, committed to equal opportunities and operates a carbon neutral business. To learn more, visit:

http://www.synomics.ai/, https://www.wheatsheafgroup.com/ and https://precisionlife.com/.

In the Unites States we follow the right to work criteria as derived from the Department of Homeland Security and you will therefore need to satisfy basic eligibility criteria and provide appropriate original documentation as required. Any offer of Employment is contingent on receipt of such documents.

In the UK and EU we follow the EU right to work employment checks and you will therefore need to satisfy basic eligibility criteria/certain conditions of employment (e.g. nationality rules/right to work in EU / UK); and provide appropriate original documentation to verify ID, nationality, employment and/or academic history.

Synomics is fully committed to equal opportunities.

Here's a link to our privacy policy- http://www.synomics.ai/privacy-and-cookies-policy/

In this policy, you will find information about our compliance with GDPR (data protection law.) You can find how to send us a request to let you access your data that we have collected, request us to delete your data, correct any inaccuracies or restrict our processing of your data. You have the right to lodge a complaint about the way we handle your data with supervisory authority or you can contact our DPO at GDPR@synomics.ai for more information or concerns. We process this data for recruitment purposes only. We store all candidate data in secured file with restricted access, and we will not share it with anyone else.