Convocatòria del Lloc/ Call for Position: DTIC-CAC-2024-2

Research Support position – Fetal Doppler for antenatal risk stratification

Fons de finançament/ Financing fund:

Research line in Translational Computing in Cardiology from group PhySense- Sensing in Physiology and Biomedicine. Initial project: PRINT00523 - Bill & Melinda Gates -Subaward Aga Khan University.

Funció a desenvolupar/ Tasks to be performed:

We are looking for a Research Support position – Data Scientist.

The main goal of this position is to contribute to the development and application of explainable machine learning algorithms (e.g., multiple kernel learning) to identify the most relevant and interpretable biomarkers for clinical decisions in fetal medicine, including understanding and identification of conditions such as intrauterine growth restriction (IUGR), small for gestational age (SGA), or prematurity, using extensive multimodal datasets containing fetal ultrasound data and clinical attributes. These datasets primarily represent populations from low to middle-income countries.

Tipus de contractació/ Type of contract: Indefinida segons previst a l'article 23 bis de la Llei 17/2022, de 5 de setembre, per la qual es modifica la Llei 14/2011, d'1 de juny, de la ciència, la tecnologia i la innovació.

Requisits/ Requirements:

- BSc, MSc in Biomedical Engineering, Informatics, Data Science, Mathematics, Physics, or equivalent.
- Statistical and Mathematical: probability and statistics knowledge for data analysis and hypothesis testing. Linear algebra knowledge for tasks like matrix operations and eigenvalue decomposition in machine learning.
- Programming: comfortable with Python, R and Matlab for data manipulation (e.g., Pandas) and visualization (e.g., Matplotlib and Seaborn). Familiarized with version control tools (e.g., Git) for collaborative work and code management.
- Machine Learning and Data Analysis: understanding and implementation of various (supervised & unsupervised) machine learning techniques and ways to evaluate models' performance. Knowledge of optimization approaches to tune models' hyperparameters.
- Data Engineering: familiarized with data cleaning and pre-processing techniques, and experience in SQL for data retrieval and database management.

- Domain Knowledge: experience in biomedical applications. Knowledge of medical image and signal processing.
- Candidates must have excellent teamwork and communication skills and be enthusiastic about collaborating with a diverse range of partners.

La data prevista d'inici és a partir de l'1 de febrer 2024, la feina és a Barcelona i cal Nie i permís de treball./ The expected start date is from February 1st, 2024, the job is in Barcelona, and Nie and a work permit is required.

Retribució prevista aproximada/ Planned remuneration approx: De 31797 a 44167 brut per any segons experiència i coneixements / From 31797 to 44167 gross per year based on experience and skills.

Grup i complement/ Group and complement: PSR2 (de nivell u fins a e)segons experiència i coneixements, PSR2 (from u to e) based on experience and skills.

Dedicació i jornada/ Dedication and working hours: Temps complet (35h/setmana)/ Full time (35h/week)

Criteris de selecció/ Selection criteria: La selecció dels candidats es farà mitjançant valoració del currículum i, si escau, amb la realització d'una prova i/o entrevista. La valoració serà la següent:/ The selection of the candidates will be made through evaluation of the curriculum and, where appropriate, with the carrying out a test and/or interview. Valuation will be as follows:

- Formació Acadèmica/ Academic Training (0-20 punts/points).
- Experiència professional i adequació al perfil proposat/ Professional experience and Adequacy to the proposed profile (0-60 punts/ points):
    - Proven experience in the development of machine learning algorithms for echocardiographic data analysis. Comfortable with Python, R and Matlab for data manipulation (e.g., Pandas) and visualization (e.g., Matplotlib and Seaborn). Familiarized with version control tools (e.g., Git) for collaborative work and code management.
    - Experienced in the application of probability and statistical tools for data analysis and hypothesis testing.
- Altres mèrits/ Other merits (0-20 punts/ points): Teamwork and communication skills.

La puntuació mínima per passar el procés de selecció és de 85 punts. La persona candidata que hagi obtingut la puntuació més alta en el procés de selecció serà l'adjudicatària del lloc de treball/ The minimum score to pass the selection process is 85 points. The candidate with the highest score in the selection process will be offered the job.

Comissió de Selecció/ Selection Committee: President: Bart Bijnens, Vocal 1: Sergio Sánchez-Martínez, Vocal 2: Gemma Piella (membre per delegació de la direcció de la UCA).
Data de publicació/ Date of publication: 12/12/2023
Termini de presentació sol·licituds/ Deadline for submission of applications: 3/01/2024
Les persones interessades han d'inscriure's al procés selectiu a través del formulari corresponent i annexar el Currículum vitae (en format pdf i amb la denominació que indiquem "CV_DTIC-CAC-2024-2_Name Surname") Interested persons must register in the selective process through the corresponding form and attach the Curriculum Vitae (in pdf format and with the name that we indicate "CV_DTIC-CAC-2024-2_Name Surname").
Link to Euraxess