

Title: Software Engineer (Python/React/Django)

Location: BII, A*Star (Singapore)

Job Type: Full-time

Job Description:

Project Description:

Coronary artery disease (CAD), a blockage of the blood vessels, is a leading cause of cardiac mortality in Singapore and worldwide, with 19% of deaths in Singapore due to CAD. Numbers of CAD cases are growing rapidly due to ageing and higher prevalence of diabetes. Computed Tomography Coronary Angiography (CTCA) is the first-line investigator for CAD as indicated by updated National Institute for Clinical Excellence (NICE) guidelines. Current practice of CAD report generation requires 3-6 hours of a CT specialist's time for annotating the scans, and with inter-observer variability of 20%. In addition, there is no effective toolkit to analyse Agatston scores (a measure of calcified CAD), severity of stenosis, and plaque characterisation. These problems have strongly and severely constrained the effectiveness of CTCA as a diagnostic and research tool. We plan to build an effective robust software toolkit using AI to provide a solution to these gaps. The Bioinformatics Institute is seeking highly motivated software engineers to develop a ground breaking software toolkit supporting AI driven diagnosis in Cardiology. The successful candidate will be involved in ideation, creation, and development of this software toolkit.

Responsibilities:

- Design, develop, and maintain software applications using Python, React, and Django
- Collaborate with the development team to identify and implement improvements to our software platform
- Participate in code reviews to ensure code quality and maintainability
- Identify and troubleshoot software issues and bugs
- Write clean, concise, and maintainable code
- Maintain software documentation and perform unit/system tests as part of a quality management system (QMS)
- Work closely with clinicians and AI scientists to design software architecture for reusable and robust code

Requirements:

- Minimum Bachelor's degree in Computer Science, Software Engineering, or related field
- Strong experience with Python, React, and Django
- Experience with front-end technologies such as HTML, CSS, and JavaScript
- Excellent problem-solving and debugging skills
- Strong communication and collaboration skills
- Ability to work independently and as part of a team

Preferred Qualifications:

- Familiarity with PySimpleGUI, VTK, Django, React, PyTorch, etc
- Experience with automated testing frameworks
- Prior knowledge in GUI, QMS, and cardiology

For more information, please visit the CVPD websites: <http://web.bii.a-star.edu.sg/~leehk/>
and <https://www.a-star.edu.sg/bii/research/ciid/cvpd>