Software Engineer

Position Summary
This position will provide support for software development in the medical physics research group on the Australian Cancer Data Network (ACDN) project particularly working with the Australian Computer Assisted Theragnostics (AusCAT) project. This will include:

- Development of data extraction, transform and load (ETL) processes and federated learning frameworks for the AusCAT project and Australian Cancer Data Network (ACDN).
- Coordination of the deployment of the AusCAT software for external clinical and research collaborators.
- Software and IT support for the AusCAT network and ACDN partners in collaboration with researchers, software engineers and IT personnel.

The Software Engineer reports to the Medical Physics Research Group Leader and has no direct reports.

Accountabilities
Specific accountabilities for this role include:

- Support the completion of each project deliverable involving software components as outlined in the ACDN project under the direction of the project management.
- Coordinate and develop a variety of software and tools comprising the AusCAT framework.
- Implement Continuous Integration and Continuous Deployment (CI/CD) processes within the AusCAT network.
- Develop appropriate automated testing suites integrating these into CI/CD pipelines.
- Define and follow software development best practices including programming style, documentation and automated testing.
- Support and train researchers and other software engineers within the AusCAT network on programming.
- Align with and actively demonstrate the UNSW Values in Action: Our Behaviours and the UNSW Code of Conduct.
• Cooperate with all health and safety policies and procedures of the university and take all reasonable care to ensure that your actions or omissions do not impact on the health and safety of yourself or others.

Skills and Experience

• Degree in Computer Science, Computer Engineering, or a related discipline or an equivalent level of knowledge gained through a combination of education, training or experience.
• In-depth understanding of processes surrounding computer programming and software engineering.
• Demonstrated expertise in writing well structured, documented code using Python as well as other scientific programming languages such as R and MatLab.
• Experience with the development and management of SQL databases.
• Experience with containerisation tools such as Docker or Kubernetes.
• Demonstrated expertise in DevOps processes and Agile software development.
• Demonstrated experience in software development within a team
• Ability to oversee structured code development.
• Demonstrated ability to deliver high quality software products that meet or exceed the requested requirements.
• Commitment to conducting research under strict ethical and regulatory guidelines.
• Excellent time management skills, with a demonstrated ability to respond to changing priorities, manage multiple tasks and meet competing deadlines by using judgement and initiative.
• Demonstrated superior interpersonal communication skills to initiate and maintain effective stakeholder relationships whilst exercising discretion and confidentiality.
• Demonstrated expertise in implementing mathematical algorithms in software is desirable.
• Experience in contributing to and collaborating on open-source software projects is desirable.
• Knowledge of image processing techniques and DICOM standards is desirable.
• An understanding of and commitment to UNSW’s aims, objectives and values in action, together with relevant policies and guidelines.
• Knowledge of health and safety responsibilities and commitment to attending relevant health and safety training

About this document
This Position Description outlines the objectives, desired outcomes, key responsibilities, accountabilities, required skills, experience and desired behaviours required to successfully perform the role.

This template is not intended to limit the scope or accountabilities of the position. Characteristics of the position may be altered in accordance with the changing requirements of the role.