Position Description

Title:	Software Developer	**HEW Level:**	6
Faculty/Office:	Faculty of Medicine and Health Sciences	**Position Number:**	tba
Department/Team:	Australian Institute of Health Innovation	**Date:**	February 2017

Position Purpose: To design, test and produce software based on user specifications for the Health Analytics Lab to collate and store patient data.

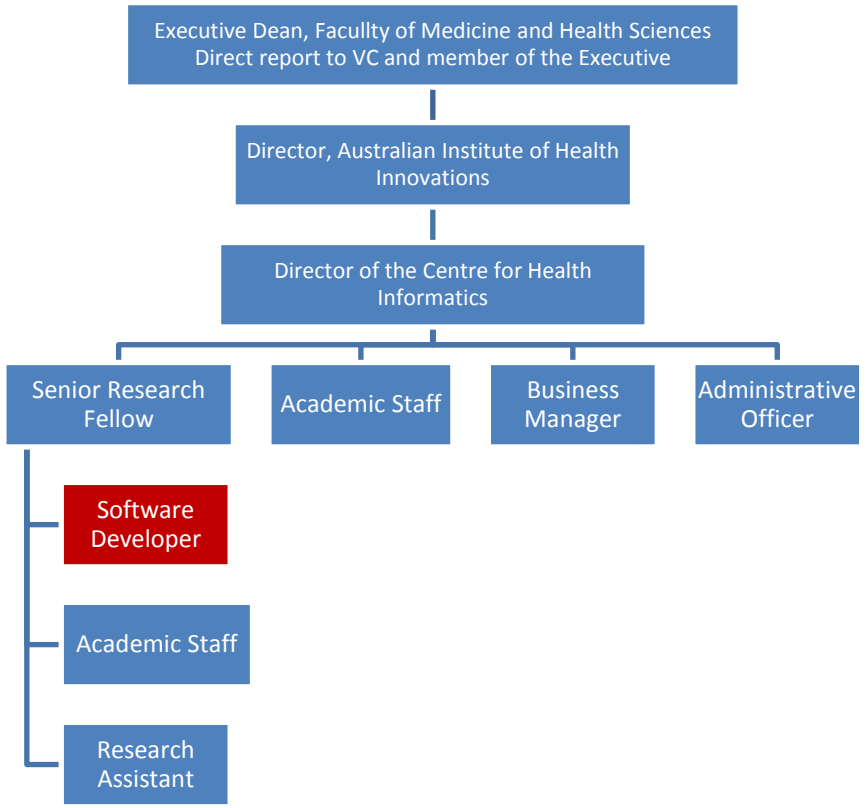
ORGANISATIONAL CONTEXT

Macquarie University is developing the nation's first fully integrated academic health sciences centre under a university's leadership. With a focus on patients and an ultimate goal of improving lives, the Macquarie University Health Sciences Centre will see true convergence of the learning and research endeavours of Macquarie's Faculty of Medicine and Health Sciences with the clinical care provided at Macquarie University Hospital and Clinics. It brings together the excellent work of medical and allied health researchers across the University and around the country, with unparalleled access to the world-leading clinical resources and research facilities found only on our campus.

The Faculty of Medicine and Health Sciences hosts the Australian Institute of Health Innovation (AIHI), an internationally acclaimed powerhouse researching health systems, e-health, and patient safety. This position sits within the Health Analytics Lab, which is part of the Centre for Health Informatics at AIHI.

The last few years have seen an increase in the digitalisation of healthcare and in the implementation and use of electronic health records. This large investment comes with the expectation that electronic health record systems and the data they contain will produce better patient outcomes while reducing costs. Realising this goal requires specialised skills and expertise that span several research disciplines. At the Health Analytics Lab, we have brought together the multidisciplinary team to successfully conduct this type of research and translate it into clinical practice.

ORGANISATION CHART



KEY ACCOUNTABILITIES	POSITION CONTEXT	
• Design, develop, test, debug and document new and existing algorithms to support health analytics software solutions. • Design, develop, test, debug and document the software architecture and user interfaces required to support users of the software solutions. • Support the generation and maintenance of a repository of selected modelling tools. • Write and maintain testing and user documentation including flowcharts, layouts, diagrams and clear reusable codes. • Conduct regular performance testing and maintenance on software tools and resolve and identified bugs or issues. • Ensure software development work is completed in accordance with agreed development methodology and Test-Driven Development principles. • Report regularly to the Senior Research Fellow on projects and ensure that concerns and risks are raised. • Provide technical support and direction to users of the software • Comply with relevant EEO and WHS regulations • Perform any other duties as required and appropriate for this classification.	**Reports to:**	Senior Research Fellow
	Positions Reporting to:	Direct: nil Indirect: nil
	Key Direct Clients:	• Academic staff with the Health Analytics Lab • Patients • Clinicians • External stakeholders
	Other Key Relationships:	• Academic staff collaborating with the Health Analytics Lab • Faculty of Medicine and Health Sciences Faculty Office staff • IT staff • Research Office staff • MQ staff in general • MQ students
	Budget Accountability:	n/a
	Role-specific Conditions:	n/a
	Scope and autonomy	Within defined parameters, adapts and develops processes, procedures, systems and/or techniques that impact how work is performed.
	Problem solving	Regularly identifies, designs, develops and implements improvements to work procedures, practices, systems and/or techniques.

CAPABILITY FRAMEWORK

Capability Frameworks describe the behaviours, skills, attributes and experience required to successfully perform a position or group of similar positions.

COMPETENCIES **Clusters of behaviours required for successful performance.**	**ATTRIBUTES** **Personal qualities related to successful performance.**
Planning and Execution: Managing time and resources to complete tasks and achieve objectives. **Quality Focus:** Ensuring accuracy and quality when completing tasks. **Communication:** Effectively grasping and conveying ideas and concepts to others. **Improvement Focus:** Finding better ways of completing tasks or solving problems. **Teamwork:** Working in collaboration with others to achieve shared goals.	**Perseverance:** Persevering despite obstacles to ensure tasks are completed. **Flexibility:** Responding effectively to unexpected or changing circumstances. **Reliability:** Meeting commitments and responsibilities. **Initiative:** Taking action, on own accord, to address problems and prevent them from reoccurring **Integrity:** Maintaining confidentiality, discretion and professionalism.

REQUIRED KNOWLEDGE

Qualifications, technical and/or professional skills and information needed from day one for successful performance.

- Tertiary qualifications in Computer Science, Software Engineering or related field.
- Knowledge of software programming languages including R, Python, C++ and Java skills and comfortable working in a Linux environment.
- Strong knowledge and interest in computational statistics.
- Experience in web development in one or more languages with exposure to both front-end and back-end development.
- Knowledge of data structures and algorithms.

ACQUIRED KNOWLEDGE

Organisational and/or professional skills and information to be developed within the first 3 to 6 months in the role for successful performance.

- Understanding of the research and corresponding translational software tools being undertaken at the Health Analytics Lab.
- Experience working with large and complex datasets and with health datasets.
- Understanding the issues with large-system interoperability.
- Knowledge of the Faculty of Medicine and Health Science's and the Australian Institute of Health Innovation's functions and structure.
- Knowledge of the Faculty of Medicine and Health Science's policies, systems, processes and procedures.
- Understanding of Research Grants held by the Health Analytics Lab and their management and reporting processes.

KEY EXPERIENCES

Practical experiences and exposure to specific environments or activities related to successful performance.

- Software development and project management approaches (such as Agile).
- Programming software in a variety of languages and frameworks including R, Python, C++ and Java.
- Writing code in a Linux environment, testing documentation and user documentation.
- Writing code for service oriented architecture.
- Familiarity with software engineering best practices including, revision control and test driven development.
- Working as part of a team.