## Position Summary

City Futures Research Centre was established in 2005 to undertake research aiming to develop a better understanding of our cities, their people, the policies that manage their growth, the issues they face and the impact they can make on our environment and economy. The Centre is hosted by Faculty of Arts, Design and Architecture and is based at the University of New South Wales, Kensington campus. Please refer to City Futures Research Centre website, located at cityfutures.ada.unsw.edu.au.

The **Postdoctoral Fellow (Data Scientist)** will play a key role in the Housing Analytics Lab (HAL) project and other funded projects. Specifically duties of the role are associated with collecting data, data wrangling, big data analytics, data visualisation and running artificial intelligence and machine learning algorithms, centred upon data and analytics related to housing across Australia. The position will be situated within the City Future Research Centre.

This role reports to Centre Director and will work with a dynamic team of data scientists, modellers and computer scientist to deliver a world class data driven urban analytics toolkit for Australia.

## Accountabilities

Specific accountabilities for this role include:

* Collect, wrangle and process data from a variety of sources including open data repository, social media and sensitive data made available to the Housing Analytics Lab project.
* Develop and undertake data analytical techniques to understand new insights into city form and function using spatial data, open data, big data and thick data.
* Conduct oral presentations relating to the research.
* Provide peer review and editing support as a member of the research team and when requested by the Director
* Write project reports to disseminate research outcomes
* Engage with Housing Analytics Lab project team, UNSW and industry partners including but not limited to AURIN, ARDC, Commonwealth Bank Australia, CHIA NSW, FrontierSI, Housing Australia, MIRVAC, PEXA, SGS Economics and Planning, Shelter, and Tenants Union NSW
* Contribute to the promotion of Centre research and the development of relationships with external partners.
* Contribute to the strategic development of the Centre.
* Lead and assist in the preparation of research grants.
* Assist in developing and delivering material for the Urban Analytics Program
* Other duties as they arise as part of specific research projects.
* Align with and actively demonstrate the [UNSW Values in Action: Our Behaviours](https://unsw.sharepoint.com/sites/values-in-action) and the [UNSW Code of Conduct](https://www.gs.unsw.edu.au/policy/documents/codeofconduct.pdf)
* Cooperate with all health and safety policy and procedures of the University and take all reasonable care to ensure your actions or omissions do not impact on the health and safety of yourself and others.

Skills and Experience

* PHD or experience in related discipline – data science, modelling and simulation, computer science, geomatics and/or actuarial.
* Expertise and skills in data analytical techniques including geoprocessing, spatial- statistics, big data analytics, spatial data mining and data visualisation.
* Experience in applying artificial intelligence, machine learning algorithms, national language processing and other data mining techniques to big (ideally city) data.
* Advanced computer programming skills in particularly using languages to work with big data including languages such as, python and R.
* High level written, verbal and presentation skills
* Proven ability to work unsupervised to deliver quality outputs within given time scales.
* Proficient in establishing successful interactions with government, business and professional organisations in order to develop research relationships.
* Ability to work as part of a team and to contribute to the overall development of the Value Australia project and related initiatives undertaken through the Centre
* 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

**Pre-employment checks required**

* Verification of qualifications

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.