



**Insight Centre for Data Analytics  
Postdoctoral Researcher  
18 month contract**

**Background**

The Insight Centre for Data Analytics (<http://www.insight-centre.org>) is a joint initiative between researchers at Dublin City University, NUI Galway, University College Cork, and, University College Dublin, as well as other partner institutions. It brings together a critical mass of more than 450 researchers from Ireland's leading ICT centres to develop a new generation of data analytics technologies in a number of key application areas.

The €88m Centre is funded by Science Foundation Ireland and a wide range of industry partners. Insight's research focus encompasses a broad range of data analytics technologies from machine learning, decision analytics and social network analysis to linked data, recommender systems and the sensor web. Together, with more than 70 partner companies, Insight researchers are solving critical challenges in the areas of Connected Health and the Discovery Economy.

**Project Background & Role**

Insight wishes to recruit a Postdoctoral Researcher on a fixed term contract basis to be responsible for the development and experimental validation of data for patient behaviour. Medication adherence is a global problem with between 30-50% of patients not taking their medication correctly. An Irish Company, HealthBeacon has developed a novel smart sharps bin for patients on home injectable medication. The resulting unique dataset collected from the HealthBeacon unit provides insights into patient's disposal patterns. The researcher recruited for this project will work with the HealthBeacon team on similar data with the aim of developing systems to assist patients who may have difficulty adhering to their treatment schedule.

**Main Duties and Responsibilities**

Reporting to his/her Principal Investigator the Postdoctoral Researcher will:

- Assist in a literature review e.g. by helping to collate/filter literature with respect to the technical and scientific requirements of the project. From an academic perspective we are interested in measures of routine stability, resilience and formation for individual patients.
- Validate existing algorithm performance on large datasets.
- Propose extensions to existing algorithms which improve performance.
- Develop robust and rigorous evaluation statistics/metrics to test the effectiveness of the proposed approaches.
- Conduct studies, proposing new candidate features and methods for their capture, in order to further improve prediction of medical adherence.
- Participate in Insight Centre activities, including industry showcases, annual reviews and industry and agency visits to the Insight labs and grant writing.
- Assist with presentation and documentation of demonstrator systems for the industry sponsor.
- Engage with other tasks relevant to successfully implementing the project's and the Research Centre's research program.
- Carry out administrative work associated with the program of research as necessary.

**Below are some pointers to examples of technologies that are used in our projects, to indicate the type of experience we require. The successful candidate should demonstrate strong competence in some of these technologies:**

- Knowledge of Python and machine learning packages
- Experience with data analytics toolsets
- Database management skills
- Experience in mathematical modelling approaches
- Experience in the use of statistical validation methods
- Experience of large dataset processing

### **Skills**

- Excellent written and oral proficiency in English (essential).
- Excellent written and verbal communication and interpersonal skills.
- Proven ability to prioritise workload and work to strict deadlines.
- Ability to work in a team and to take responsibility to contribute to the overall success of the team.
- Strong problem solving abilities.

### **Minimum Criteria**

The ideal candidate will have a PhD in Computer Science, Statistics, Engineering or a related discipline with strong software skills and relevant experience in data modelling and machine-learning.

### **Additional Information**

The successful candidates will be offered opportunities for developing their own careers in a number of directions including support for conference/workshop travel, upskilling through Insight's continuous professional development in areas like research ethics and data privacy, student supervision and development and submission of their own research project proposals.

### **Research Career Framework**

As part of this role you will be required to participate in the DCU Research Career Framework <http://dcu.ie/hr/ResearchersFramework/index.shtml>. This framework is designed to provide significant professional development opportunities to researchers and offer the best opportunities in terms of a wider career path.

**Salary:** €37,223 per annum (IUA level 2 point 1)

**Closing Date:** 28<sup>th</sup> February 2019

### **Candidates will be assessed on the following competencies:**

**Discipline specific knowledge and Research Skills** (demonstrates knowledge of a research discipline and the ability to conduct a specific programme of research within that discipline)

**Communicating Research** (Demonstrates the ability to communicate their research with their peers and the wider research community (for example presenting at conferences and publishing research in relevant journals) and the potential to teach and tutor students)

**Managing & Leadership skills** (demonstrates the potential to manage a research project including the supervision of undergraduate students)

**Understanding the Research Environment** (demonstrates an awareness of the research environment (e.g. funding bodies) and takes responsibility for how their research is conducted)

**Informal enquiries:** email Prof Tomás Ward at [tomas.ward@insight-centre.org](mailto:tomas.ward@insight-centre.org)

*Please do not send applications to this email address, instead apply as described below.*

**Application Procedure:**

Application forms are available from the DCU Current Vacancies (open Competitions) website at <https://www.dcu.ie/hr/vacancies/current.shtml> and also from the Human Resources Department, Dublin City University, Dublin 9. Tel: +353 (0) 1 700 5149.

Applications should be submitted by email to [hr.applications@dcu.ie](mailto:hr.applications@dcu.ie) or by Fax: +353 (0)1 7005500 or by post to;

Human Resources Department, Dublin City University, Dublin 9. (Tel: +353 1 700 5149)

**Please clearly state the role that you are applying for in your application and email subject line: Job Ref 1136 Postdoctoral Researcher – Insight Centre for Data Analytics**

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