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**Job Description**

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| **Job title:** | **KTP Health Data Scientist – KTP Associate** |
| **Department/School:** | **Mathematical Sciences** |
| **Salary:** | **£31,000 to £35,000 p/a depending on qualifications and experience, plus an additional £4,667 personal training and development budget**  **The post is fixed term for 28 months** |
| **Location:** | **Mayden Ltd.**  **Central Bath** |

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| **Job purpose** |
| Working with Mayden’s flagship client management system [iaptus](http://www.iaptus.co.uk/) (initially designed to capture and report the Improving Access to Psychological Therapies (IAPT) dataset whilst managing client records and workflow), the aim of this exciting role is for an aspiring statistician to develop, validate and implement statistical models that predict patient engagement and non-attendance, enabling services to deliver more productive and efficient care. In addition, the associate will provide training materials and workshops on statistical methods used throughout the project. The project will ensure iaptus has more advanced predictive analytics integrated into the system than any other Digital Care Record.  This is a twenty-eight month Knowledge Transfer Partnership (KTP) between Mayden Ltd and the Department of Mathematical Sciences at the University of Bath. |

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| **Source and nature of management provided** |
| The KTP project is delivered by the Associate and is managed through a Local Management Committee (LMC). This is chaired by the senior company executive and comprises the Company and Academic leaders/supervisors and a KTP Advisor (Innovate UK representative), and meets every 4 months. Monthly progress meetings are held with the Company and Academic Supervisors. Day-to-day management will be organised by the Company’s Technical Support & Implementation Officer. |

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| **Staff management responsibility** |
| There is no direct management responsibility. |

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| **Special conditions** |
| The Associate must be able to travel as required, to attend KTP residential modules and any meeting in the UK or overseas as is necessary for the successful completion of the project. |

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| **Main duties and responsibilities** | |
| **1** | **Development of statistical models to predict patient engagement.**   * Carry out the initial analysis by investigating characteristics at baseline/referral that determine engagement and at later stages will mode drop out risk in real-time using factors that change over the course of treatment in addition to baseline factors.   + Tasks will include literature reviews of previously used methods, writing analysis plans, carrying out exploratory data analysis, writing and documenting R code, and finally summarising the analysis in reports and oral presentations. |
| **2.** | **Project Management**.   * Working in an industrial environment to project manage and lead (under company supervision) the development and validation of predictive analytics into the iaptus system. |
| **3.** | **Software and feature development.**   * Implement the statistical models in the open-source software R and work with the Mayden’s Data Services team to embed the models in iaptus using Talend and Tableau. |
| **4.** | **Training.**   * Deliver short workshops and write guidance documents for Mayden staff at each stage of the modelling process.   + This will include basic statistical methods, linear and generalised linear models, writing analysis plans, and using simulated data to validate predictive models. |
| **5.** | **Teamwork and motivation**.   * This project is part of a wider team effort and flexibility will be required when scheduling tasks and there will be some mini-projects in addition to the KTP projects. * Be a very strong communicator, and demonstrate the ability to work with both the academic supervisor and the wider team in the University’s Mathematical Department as well as with company colleagues and supervisors. |
| **6.** | **Initiative and problem-solving.**   * The main objectives of the project and the desired timeline are set but how they will be achieved will be dictated by the evolution of the research. * The Associate must therefore be self-motivated to complete the tasks and manage the project accordingly. |
| **7.** | **Customer Interaction**.   * At an early stage, get input from iaptus customers on further analytics requirements. Get feedback on new features through focus groups and IAPT conferences throughout the project. |
| **8.** | **Supervision.**   * At specific times in the project, the Associate might be expected to supervise technical personnel for completion of specific tasks, either in person or remotely. |
| **9.** | **Liaison and Networking**.   * The project relies on a good dissemination of results but also the pro-active search for the right information, sometimes outside the applicant’s direct skill set, and sometimes to show external customers the results of the project and how it matches their objectives. Timely and relevant exchanges of information are primordial. |
| **10.** | **Communication.**   * The Associate is expected to write monthly progress reports and prepare executive summaries and other reports for the Local Management Committee (LMC) meetings. * Within the limits of commercial confidentiality, the Associate will have the opportunity to deliver papers at conferences and will be expected to co-author articles in peer-reviewed international publications. * Excellent written and oral communication skills are therefore important. |
|  | The Associate will be an employee of the University of Bath and based at the Company for most of the time. |
| You will from time to time be required to undertake other duties of a similar nature as reasonably required by your line manager. You are required to follow all University policies and procedures at all times and take account of University guidance. | |

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**Person Specification**

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| **Criteria** | **Essential** | **Desirable** |
| **Qualifications** |  |  |
| A PhD or equivalent significant relevant experience and professional qualification, in statistics, mathematics, computer science or a related field | **** |  |
| **Experience/Knowledge** |  |  |
| Practical experience of applying statistical techniques to devising solutions to real world problems.  A strong statistical computing and programming background (preferably in R).  A strong understanding of standard statistical modelling tools (e.g., regression, generalised linear models).  An interest in training others in statistical methods.  Some experience communicating complex technical information to a non-technical audience  Willingness to learn project management principles including agile software development methods.  Experience analysing time-to-event data.  Some experience analysing large observational studies or electronic health records.  Previous experience as a tutor or peer mentor in an academic setting.  Knowledge of project management principles and techniques.  Evidence of having project managed a project whether in an industrial or graduate/undergraduate setting. | ****  ****  ****  ****  ****  **** | ****  ****  ****  ****  **** |
| **Skills** |  |  |
| Strong analytical skills.  Excellent written and verbal communication skills  Proven experience of writing reports, giving presentations  Ability to manage time critical projects to agreed plans and specifications  Ability to conceptualise and understand the commercial imperative for the project. | ****  ****  ****  ****    **** |  |
| **Attributes** |  |  |
| Teamwork and motivation: experience of working as part of a multi-disciplinary team.  Self-motivated: ability to “take ownership” of the project and bring it to successful completion  Awareness of the principles of KTP and a willingness to embrace them | ****  ****  **** |  |