**Project Proposal**

About Cambridge Cognition:

Cambridge Cognition is a leading technology company developing digital health products to better understand, detect and treat conditions affecting brain health. The Company’s software products assess cognitive health in patients worldwide to improve clinical trial outcomes, identify and stratify patients early and improve global efficiency in pharmaceutical and healthcare industries. Central to this is the Cambridge Neuropsychological Automated Testing Battery (CANTAB) comprising tests across multiple cognitive domains with extensive validation for detection of cognitive impairment and change in response to therapy. CANTAB has been used in large scale studies and research collaborations including Institution Brain Health Study (1) and AI-Mind (2). These studies exemplify the research data available for gathering validation insights, disease sensitivity and opportunities for new endpoint development.

Project Proposal:

We are seeking a detail-orientated and motivated PhD student to join our R&D team. The placement student will be responsible for delivering longitudinal analysis for describing normative change for multiple CANTAB tests in these large research datasets.

Key Responsibilities:

* Perform normative analysis of CANTAB test deployed in a large observational study
* Generate estimates or normative longitudinal change across duration of observational study
* Extract a range of psychometric properties of the test

Requirements:

* An interest in Data Science, Cognitive Neuropsychology or other related life sciences
* Strong analytical and problem-solving skills
* Proficiency in R/Python/SQL or similar programming tools
* Knowledge of longitudinal analysis methods including Mixed Effects Models
* Familiarity with git and version control
* Excellent attention to detail and organisational skills
* Ability to work independently and as part of a team
* Effective communication skills, both written and verbal

What this project offers:

* Hands on experience in longitudinal analysis of large datasets
* Opportunity to work with a dynamic and innovative team
* Mentorship and guidance from experienced professionals in the field

References

1. Butler, P.M., Yang, J., Brown, R. *et al.* Smartwatch- and smartphone-based remote assessment of brain health and detection of mild cognitive impairment. *Nat Med* **31**, 829–839 (2025). <https://doi.org/10.1038/s41591-024-03475-9>
2. AI-mind.eu/study/