### Full Company Name
Mind over Matter Medtech Ltd.

### Address
9 Orchard Way, Horsmonden, Tonbridge, Kent, TN12 8JX

### Description of Company’s Business
Mind over Matter is a MedTech company that prides itself in finding ways to solve the most difficult challenges in healthcare. It develops its own MedTech as well as providing consultancy to other MedTech companies.

Mind over Matter is currently developing two technologies aiming to reduce dementia incidence in future elderly generations:
1. A headband with two types of neuroimaging sensors that determine an individual’s risk for developing dementia decades before symptoms appear.
2. A behavioural change app that helps individuals reduce their risk of dementia by up to 50% through lifestyle changes.

### Objective/s of the Proposed Project Placement
A research intern is sought primarily to support Mind over Matter’s neuroimaging feasibility project, with additional opportunities for the intern to be involved in the company’s app development and other consultancy projects.

The intern will be supported by the Founder who completed a Statistics DPhil at University of Oxford, which included fitting statistical models to functional MRI signals to better understand their physiological origins, before gaining extensive experience in the medical device market as a Health Economist.

Mind over Matter has won sought-after funding from the UK Government and the EU to test the feasibility of their neuroimaging headband (containing EEG and photonic Diffuse Correlation Spectroscopy (DCS) sensors) and behaviour change app that is in development.

The major objective of the neuroimaging feasibility project is to answer the following questions and in so doing progress the technology under development from technology readiness level (TRL) 3 to 5:

**Technical Question:** “Does the unique information about an individual’s risk for...”
developing dementia available from measuring brain inflammation using the headband (as compared to assessing clinical risk factors only) increase predictive power sufficiently for clinicians to prescribe a dementia prevention strategy?”

Commercial Question: “Could the total solution be manufactured for a price that potential customers would be willing to pay?”

| Student’s key accountabilities towards the project. | - Support the collection of neuroimaging and personal and lifestyle data from 50 individuals aged 55+. At least 20 of these individuals will have dementia.

- Assist with creating a PowerPoint presentation to be used to stimulate the brain activity of elderly individuals taking part in the feasibility trials.

- Be first point of contact for Senso Medical (MoM’s prototype headband manufacturers) when they have any queries relating to the design and technical engineering of the prototype headband v1.0.

- Assist with identifying/repairing issues with the prototype headband v1.0 in the feasibility trials.

- Support the Founder with checking the quality of the neuroimaging signals emerging from the feasibility trials.

- Conduct a literature review for the two neuroimaging technologies including key technical developments, challenges and limitations of their practical use, major academic groups and their capabilities.

- With support from the Founder, input into the design and technical engineering of the prototype headband v2.0 in collaboration with the company’s manufacturers (Senso Medical and Dynasil). |

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<tr>
<th>Person Specification: Necessary skills, knowledge, experience and attributes needed to carry out the placement.</th>
<th>Essential</th>
<th>Desirable</th>
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<tbody>
<tr>
<td>Degree in Engineering/Physics/Computing or a related field.</td>
<td>Signal processing computer coding experience.</td>
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<tr>
<td>Computer coding skills.</td>
<td>Physics and/or engineering of EEG and photonics technologies.</td>
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<td>Self-motivated, willing and able to work from home for 1-2 days a week (or equivalent if working part-time).</td>
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<td>Use of a laptop and the internet to work from home.</td>
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Organised and methodical.

Hard-working, good time-keeping, reliable and well-presented.

High-quality spoken and written English.

Excellent quantitative/qualitative research skills.

Passionate about making a difference to people’s health and lives.

| Full time or part time? (Please tick both if this is flexible). | Full Time ☒
Part Time ☒ |
---|---|
| If part time: number of hours per week | Can be flexible but the total placement will add up to 12 weeks full-time equivalent. |
| Where will the candidate be based? | The candidate will be out and about for data collection, team meetings and supervision purposes for 2-3 days a week. Some of these meetings could be local, some may be further afield in Kent (particularly in Tonbridge area), but most will be along the South Coast e.g. Worthing. All travel expenses will be reimbursed. For the remaining days, the candidate will be home-based. |
| Length of project placement and preferred start date. | 12 weeks- Full-time (35 hours per week)
24 weeks- Part-time (17.5 hours per week)
The company can be flexible with duration and number of hours worked per week. |
| Note: start date will be subject to Right to Work checks and contract approval. | Start date: ASAP and by end-August at the latest. |