Position: Postdoc — **Laboratory:** Precision Psychiatry & Social Physiology

Job Description:
As a Postdoc in our esteemed lab, you will play a pivotal role in implementing and testing state-of-the-art Machine Learning techniques. Working alongside an interdisciplinary team of researchers, you will drive the development of innovative approaches using scientifically grounded models of brain dynamics. Your primary focus will be on developing time-series models and transfer learning approaches, and ultimately training foundational models for brain dynamics.

Job environment:
The city of Montréal serves as a global hub for cutting-edge research at the intersection of AI and neuroscience, particularly in the realm of computational psychiatry. Montréal has a vibrant and interdisciplinary academic community and leading institutions such as Mila – Quebec AI Institute and the UNIQUE Center (Unifying Neuroscience and Artificial Intelligence in Québec), which consists of more than 80 researchers affiliated with several universities and research centers from different regions of the province and outside. Montreal is also fueled by a rich ecosystem of startups, tech companies, and academic collaborations, providing unparalleled opportunities for interdisciplinary work and innovation. As a member of our team, you will have the unique advantage of being immersed in this dynamic environment, collaborating with world-renowned experts, and contributing to groundbreaking research.

Responsibilities:
- Implementing and developing machine learning algorithms for large-scale neuroscience.
- Collaborating effectively with other team members, you will analyze experimental results and contribute to academic publications.
- We foster a culture of innovation, so your contributions of creative ideas and input into the research direction will be highly valued.

Requirements:
- You should possess a Ph.D. degree in Computer Science, Computational Neuroscience, or a related field.
- Strong programming skills in Python, along with experience in deep learning frameworks, particularly PyTorch, are essential.
- A thorough understanding of signal processing algorithms and their applications is required.
- Demonstrated interest in neuroscience is highly desirable.
- Eagerness to learn and adapt to new challenges is a highly valued characteristic in our team members.

Preferred Qualifications:
- Experience with time-series and/or HPC with an understanding of their unique challenges will be considered a significant advantage.
- Prior exposure to brain imaging (MRI) and neurophysiology (EEG) data will be beneficial for this role.
- You have worked with or are open to working with researchers in other disciplines, including cognitive neuroscience, systems biology, and biomedical research, and have proficiency or interest in publishing your work in both machine learning conferences and neuroscience journals.

EDI:
The PPSP lab is committed to creating a diverse, inclusive and equitable environment as does its community, and abides by the same code of conduct of UNIQUE Center to this end. We encourage candidates of any ethnic origin, disability, gender identity/preference, sexual orientation/preference, religion, personal differences of any kind, or belonging/identifying to a minority or marginalized group (as defined by the government of Canada) to post their candidacy.

Benefits:
- This role presents a unique opportunity to work on cutting-edge research projects at the intersection of AI and neuroscience.
- You will gain invaluable experience in developing innovative algorithms and models.
- You will have access to an interdisciplinary project team combining expertise in AI, neuroscience, and dynamical systems.
- We offer a competitive compensation and benefits package.

Application Instructions:
To apply for the position of Postdoc in the Precision Psychiatry & Social Physiology lab, please submit the following documents to [guillaume.dumas@ppsp.team]:

1. An up-to-date CV or resume highlighting relevant educational background and work experiences.
2. A cover letter outlining your interest in the position and your research experience related to deep learning, reinforcement learning, and/or social learning.
3. Academic transcripts (unofficial copies are acceptable).
4. Optional: Up to 3 writing samples of your published or unpublished work.
5. Optional: Any links to GitHub repositories or attachments showcasing relevant personal or academic projects.

Application Deadline: April 30th, 2024

If you possess the passion and skills we are seeking, we encourage you to apply and become a part of our exciting research journey!