Maedbh King
· PH.D. CANDIDATE ·

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School of Information

October 3, 2021

102 S HALL
UNIVERSITY OF CALIFORNIA, BERKELEY
BERKELEY, CA 94720

Application for Graduate Certificate in Applied Data Science

To whom it may concern,

I'm currently a PhD candidate in cognitive neuroscience at UC Berkeley. I design large-scale neuroimaging studies and use machine learning to build predictive models of cerebellar function. The holy grail of cognitive neuroscience is to understand what the cerebellum is doing in cognition. My research attempts to answer this question, and the more I learn, the more I am fascinated by this mysterious yet widely misunderstood brain structure.

All of the work that I have conducted thus far in my PhD has relied on data science techniques. For example, I have used semi non-negative matrix factorization to build a functional map of the cerebellum, and feature-based regularized regression to estimate and test models of cerebro-cerebellar connectivity. Dimensionality reduction (e.g., PCA) and hierarchical clustering are the bread and butter for a lot of the analyses that I do in analyzing high-dimensional brain data. I could not do my research without the principles and techniques afforded by advances in data science.

Thank you in advance for considering my application.

Sincerely,

Maedbh King