Cover Letter: Assistant Professor at the Johns Hopkins Bloomberg School of Public Health
John Muschelli

I would like to be considered for your Assistant Professor position in the Department of Biostatistics at the Johns Hopkins Bloomberg School of Public Health.

I did not become a PhD student lightly. During my 8-year tenure at in the Department of Biostatistics at the Johns Hopkins Bloomberg School of Public Health, I have been a Master's-level student, a research-track faculty consultant, and finally a PhD student and expect to graduate in May 2016. As a Master's student, I developed skills for analysis with much breadth, but wanted more depth. As a consultant, I had the opportunity to collaborate extensively with researchers. However, I realized gaps in my knowledge and certain constraints of not having a PhD. Although it was a 4-year investment, becoming a PhD student allowed me the freedom to learn additional skills, work on problems I felt necessary and important, and understand the requirements for a successful academic career.
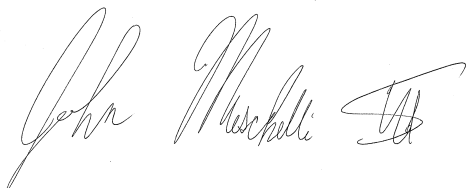
Under the direction of my advisor, Dr. Ciprian Crainiceanu, my dissertation focused on developing automated tools for assessing clinical biomarkers for disease prognosis, specifically in neuroimaging. I studied brain images in both magnetic resonance imaging and computed tomography. I have developed statistical methods for image segmentation for hemorrhagic stroke and lesions in patients with multiple sclerosis. The image analysis of these clinical populations previously was done in semi-automated or qualitative ways; my goal was to provide more quantitative and statistical rigor to the analysis.

Methodological contributions can only be considered complete when accompanied by the necessary tools (i.e. software). Thus, in addition to my expertise in neuroimaging, I also have extensive experience in package development in the R programming language. I have created over 8 R packages for analysis and visualization that are hosted both on CRAN and GitHub.

During my graduate career, I have been fortunate to also serve as a teaching assistant and co-instructor for multiple classes. These student population included a large variety of graduate students, researchers, and clinicians. As a teaching assistant, I have prepared hour-long lab sessions, held office hours, as well as written and prepared examinations and quizzes in moderately sized (N=60) classes such as Methods in Biostatistics and large (N=500) classes such as Statistical Methods in Public Health. As such, I have developed a strong interest in training new students on sound statistical methods, R programming, and neuroimage analysis.

I am enclosing my CV and statements of teaching and research. Letters of recommendation will be mailed separately. Thank you very much for your consideration.

John Muschelli