NENS stipend awardee: Dorukhan Açıl

Home lab: Department of Child and Adolescent Psychiatry, Medical Faculty, Leipzig University, Leipzig, Germany (Prof. Kai von Klitzing & Dr. Lars White)

Host lab: Control-Interoception-Attention (CIA) Lab, Paris Brain Institute (ICM), Sorbonne University, Paris, France (Dr. Leonie Koban)

Period of training stay: 3 months (5th of September - 9th of December, 2022)

This report is to attest that I have successfully completed my research stay at the Paris Brain Institute under the supervision of Dr. Leonie Koban. Two main goals of this stay before my arrival were (1) that I would learn the multi-voxel pattern analysis (MVPA) and support vector machines (SVM) to be able to use them in analyses of fMRI data effectively, and (2) to develop neural markers for self- and other-referential thought by using a brain signatures approach (Kragel, Koban, Barrett, & Wager, 2018). Brain signatures refer to a specific class of multivariate models of brain activity that classify and predict categories of behavior or mental events.

To this end, we have reanalyzed an existing fMRI data set (Koban, et al., unpublished) of n=21 adult participants who completed a trait judgement task. First of all, we developed and validated brain signatures within this sample for self-related thought, other-related thought, and mentalizing separately. Because it is important to validate these signatures further in independent datasets, we reached out to authors of studies who used the same task and comply with our inclusion criteria. Several authors returned positively to our call, providing us with the first-level fMRI images of their studies. This allowed us to assess the performance of our signatures which was one of the final steps before the manuscript preparation that coincided with the end of my three-month stay in Paris. In the end, Dr. Koban and I agreed to continue working together on this project, which potentially will be a part of my dissertation as well. Now when I am back in my home lab in Leipzig, I'm applying these new analytic tools to an fMRI dataset that is another part of my Ph.D. studies.

Overall during my stay, I got trained in multivariate fMRI analyses, applied these new analytic tools to an existing dataset, and concluded new international collaborations with similarly interested colleagues. I had a very good working relationship with my supervisor, Dr. Koban, and got to know the amazing people of the CIA Lab. The social atmosphere at ICM, the level of work being conducted, and the way I was welcomed there made it a top exchange experience for me. Thus, this has been a time of immense professional and personal growth. I am grateful to the FENS and its personnel for supporting me during this exchange stay. I remain available for any further requests from interested colleagues.