

## Student assistant in the field of data analysis

### Your profile

- Study program: Mathematics, computer science, CES, SiSc or a related study program
- Basic programming skills
- Experience with Python desirable, but not necessary
- Experience with data analysis desirable, but not necessary
- Independent, careful and reliable way of working
- Motivation to familiarize yourself with new areas

### Your tasks

The aim of this project is to identify descriptors for surfaces as well as functions on surfaces, which encode the relevant features of those surfaces/functions and allow their prediction. Specifically, protein surfaces and charge distributions will be investigated. The corresponding descriptors will be used to predict the chromatographic separation of the proteins.

Your task is the computation of such shape descriptors for different proteins, e.g. based on eigenfunctions of the Laplace-Beltrami operator. In a second step, you will use numeric tools to search for relevant correlations between the descriptors and existing experimental chromatography data. The computation of the descriptors will be based on existing Python packages, e.g. SpharaPy or libigl.

The work hours and mobile office can be negotiated as need be. Using your own hardware and preferred software will be possible as long as the code is in Python.

### Our offer

The position is open immediately and scheduled for a 3 month period with an option for extension. The regular time obligation is 10 h per week, but can be adjusted based on negotiations with the supervisor. The payment will be according to the research assistant (HiWi) guidelines of the Fraunhofer Society, the Fraunhofer IME specifically.

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