Student Projects in Machine Learning for Protein Design

A small group in our lab has been working on machine learning methods for protein design, with a particular focus on settings where very large datasets can be generated in the lab. This focus has led to a lot of interesting problems in experiment design, uncertainty quantification, reinforcement learning, and training large language models. We are excited about using our approaches to design real lab experiments, something we have already been doing. The goal is to design machine learning methods that allow scientists to develop new and better therapeutics.

We're open to working with master's thesis, semester project, or bachelor's thesis students. If you don't have a specific requirement for credits but are interested, reach out anyway. More concrete details of specific subprojects are available upon request.

You might be a great fit to work on these kinds of problem with us if any of the below apply

- You enjoyed the content of the PAI course
- You have a machine learning background and, while maybe minimal biology knowledge at the moment, are excited about learning and applying machine learning in science
- You have a computational biology background and are excited about using that to drive new machine learning methods

If interested, email Scott at (scott.sussex@inf.ethz.ch).