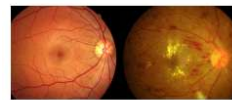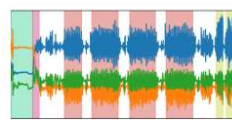<div align="center">

Forschungspraktikum Summer Semester 2024
"Deep Learning Lab"

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Prof. Dr. Steffen Staab
Dr. Decky Aspandi
M.Sc. Mojtaba Nayyeri
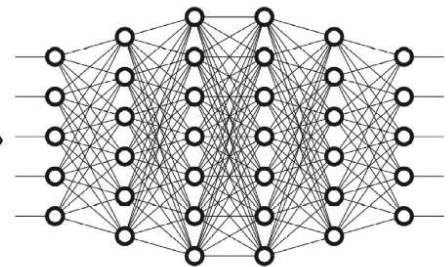M.Sc. Bo xiong

First Meeting: To be defined
Further Meetings: To be defined

Healthy? Disease?

Running? Sitting?

Target Group
This seminar targets students interested in Artificial Intelligence and Machine Learning, with emphasize of the application of the advance in Deep Learning.

The Topic
This lab aims to teach the best available practices to solve problems of the machine learning main Tasks. This includes, but not limited to, computer vision signal processing, using the deep learning method. We provide various real-world examples with sufficient training data. Students can use these test cases to implement what they learn in the lab. Participants will select one of the provided topics, and build the prediction models using deep learning libraries (e.g. Pytorch).

Students are expected to work in groups and learn the fundamental steps in developing accurate (thus effective) deep neural networks for predictions. This includes improving the overall pipelines through dataset fetching optimizations, data pre-processing, and enhancing model predictions through customizing the network architectures. Furthermore, students are encouraged to come up with their ideas and practices to further improve the quality of their code.

At the end of the course, students are expected to prepare a scientific report and give a presentation of the developed models, where the discussion with their peers would be established.

Procedure
At the beginning of the lab, the structure of their software codes, presentations and reports will be discussed with the lecturers. Participants then report and discuss their progress weekly. At the end of the Lab, students give their final presentations. Hence, before the final presentations and before the end of the summer term, the reports must be handed in.

Contact
If you have any question regarding the lab, please feel free to contact us via email: decky.aspandi-latif@ipvs.uni-stuttgart.de