

## Invitation to the Oral Examination – Department CS

For the occasion of his examination for a Doctoral Degree,

**Mr. Marc Joel Horlacher**

will present her dissertation titled

**Computational Modeling of Protein-RNA Interactions with Deep Neural Networks**

on Tuesday, December 10, 2024, at 9:00 AM (CEST)

Attendance to the presentation is open to the public. The presentation will be in **English**.

The candidate, all members of the Examination Committee, and authorized examiners of the TUM School of CIT are invited to the presentation and subsequent oral examination.

The presentation and subsequent examination will take place online via **Zoom**.

<https://tum-conf.zoom-x.de/j/63731658980?pwd=qfA2DE9JTnp7gTuMyR9gT3Mhg7aAHb.1>

Meeting ID: 637 3165 8980

Passcode: 487108

Examination committee:

Vorsitz der Prüfungskommission: Prof. Dr. Nassir Navab

Erstprüfer:in: Prof. Dr. Julien Gagneur

Zweitprüfer:in: Prof. Dr. rer. nat. Dr. Fabian J. Theis

Drittprüfer:in: Prof. Eduardo Eyras

Munich, **the 18 of October 2024**

Mailing list:

Members of the examination committee

Doctoral candidate

Abstract:

Post-transcriptional processes are governed by the interplay between RNA molecules and RNA-binding proteins. This thesis employs deep learning to model protein-RNA interactions and contributes three major scientific advancements. First, it presents a computational binding map of human proteins to the SARS-CoV-2 RNA. Second, it benchmarks several methods for protein-RNA interaction prediction. Finally, it introduces a novel approach to predict protein-RNA interactions at nucleotide resolution.