

Invitation to the Oral Examination – Department CS

For the occasion of his/her examination for a Doctoral Degree,

Kevin Höhlein

will present his dissertation entitled

Data-Driven Modeling and Analysis of Numerical Weather Predictions

on **10.01.2025 at 02:00 pm CET**

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 **BBB**:

<https://bbb.cit.tum.de/eli-t3m-bca-a9o>

as well as in person in **MI-Building, Boltzmannstr. 3 in 85748 Garching, Room 00.10.011**.

Examination committee:

Chair: **Prof. Helmut Seidl, TUM CIT I2**

First Examiner: **Prof. Rüdiger Westermann, TUM CIT I15**

Second Examiner: **Prof. Tobias Günther, FAU Erlangen-Nürnberg**

Garching, **17th of December, 2024**

Mailing list:

Members of the examination committee

Doctoral candidate

CIT staff

Abstract: Weather prediction systems generate vast numerical simulation datasets that require statistical postprocessing and interactive human exploration. In this thesis, we develop deep-learning-based methods for postprocessing weather predictions and representing the forecasts for subsequent analysis. We use neural networks to enhance the spatial resolution of weather forecasts and postprocess ensemble predictions, and adapt neural networks as compact representations for volumetric ensemble datasets.