

Fachpraktikum AI – Status Week 2

Last week

- Assigned team members to main tasks
- Searched for training data on YouTube
- Got started coding
 - created github repository
 - wrote baseline LSTM code
 - Defined tensor dimensions for model
 - First draft code for single ball detection (opencv python) ready

Last week

- Looked into visual rendering using OpenGL
- Researched and started implementing Random Forest Regression for comparison

Trello interface showing a project board titled "FaPra AI". The board is organized into columns: Backlog, ToDo - Misc, ToDo - Preprocessing, ToDo - Modeling, ToDo - Evaluation, and In Progress. Each column contains task cards with progress bars, descriptions, and assigned members (AN, SG, SB, TM, ZC).

Backlog

- Collect data
- Implement algo to extract ball positions from frame
- Cut video into separate scenarios
- Generate frame sequence for each scenario
- Implement Deep Learning model
- Implement evaluation method with scoring metrics
- Implement rendering of table view
- Implement generation of GIF from prediction time series

ToDo - Misc

- [PM] Prepare slides for weekly report

ToDo - Preprocessing

- [Preprocessing] Search useful videos on Youtube and upload to Git-LFS
- [Preprocessing] Capture frames of video with OpenCV
- [Preprocessing] Implement algorithm to extract balls from frame

ToDo - Modeling

- [Modeling] Implement methods to save and load model
- [Modeling] Implement baseline LSTM model
- [Modeling] Implement data loader
- [Modeling] Investigate in classical ML approaches as comparison model
- [Modeling] Define tensor dimensions as interfaces

ToDo - Evaluation

- [Evaluation] Write script to generate image with colored rectangle representing billiard table
- [Evaluation] Render balls to image of billiard table based on list of ball positions

In Progress

- Understand basic technologies
- Collect questions regarding project modalities

Boards

FaPra AI

Fachpraktikum AI

Free

Team Visible

SB

TM

AN

SG

ZC

Invite

Butler

Show Menu

ToDo - Misc

[PM] Prepare slides for weekly report

+ Add another card

ToDo - Preprocessing

[Preprocessing] Search useful videos on Youtube and upload to Git-LFS

[Preprocessing] Capture frames of video with OpenCV

[Preprocessing] Implement algorithm to extract balls from frame

+ Add another card

ToDo - Modeling

[Modeling] Implement methods to save and load model

[Modeling] Implement baseline LSTM model

[Modeling] Implement data loader

[Modeling] Investigate in classical ML approaches as comparison model

[Modeling] Define tensor dimensions as interfaces

+ Add another card

ToDo - Evaluation

[Evaluation] Write script to generate image with colored rectangle representing billiard table

[Evaluation] Render balls to image of billiard table based on list of ball positions

+ Add another card

In Progress

Understand basic technologies

Collect questions regarding project modalities

+ Add another card

Done

Setup Discord channels

Do initial draft of requirements analysis

Prepare presentation for Weekly Sprint

Literature research

Create data flow diagram

Analyze CRISP-DM model

Define rough idea of project deliverables

+ Add another card