

24.10.23

# Practical Engineering with LLMs

## GENERAL INTRODUCTION

- **Getting to know each other**
- **What can you expect**
- **Organizational matters**
- **Course outline**
- **Requirements for credits**
- **Demos**
- **Breakout sessions**
- **Tasks for next session**

- **Getting to know each other**
- **What can you expect**
- **Organizational matters**
- **Course outline**
- **Requirements for credits**
- **Demos**
- **Breakout sessions**
- **Tasks for next session**



# Getting to know each other!

## Your course instructors



# Getting to know each other!

Please introduce yourself!

- What's your name?
- Where are you located, studying, working?
- What is something you love to do?
- What kind of LLM-projects might interest you?

- Getting to know each other
- **What can you expect**
- Organizational matters
- Course outline
- Requirements for credits
- Demos
- Breakout sessions
- Tasks for next session

# **What you can expect...**

- **OpenCampus courses are a collaborative learning experience.**
- **We will provide you with helpful online courses and additional material.**
- **We will challenge you with tasks and guide you in learning.**
- **You have an active role as a learner and project leader.**
- **You will work on your own project together with other participants.**

- Getting to know each other
- What can you expect
- **Organizational matters**
- Course outline
- Requirements for credits
- Demos
- Breakout sessions
- Tasks for next session



# **ORGANIZATIONAL MATTERS - Mattermost**

- **Complete your profile in the Mattermost chat with your full name and a photo.**
- **Please write us if you won't continue the course!**

# ORGANIZATIONAL MATTERS - Mattermost

The screenshot displays the Mattermost web interface. On the left sidebar, the 'Channels' section for 'opencampus.sh' is visible, listing various channels including '01 - General', '03 - Kiel.AI', '04 - Jobs', '23S | Lehren und Lernen...', '23W | Practical Engineering with LLMs' (which is selected), 'Coding.Waterkant', 'Coding.Waterkant 2022', 'Edu | Q&A', 'EduHub Issues', 'Kursleitungen', and 'LuL mit KI - Organisation'. The main content area shows the '23W | Practical Engineering with LLMs' channel page. It features a header with the channel name, a search bar, and a 'Start call' button. Below the header, a large heading reads 'Beginning of 23W | Practical Engineering with LLMs'. A system message states: 'This is the start of the 23W | Practical Engineering with LLMs channel, created by Steffen Brandt on August 28, 2023. Any member can join and read this channel.' Below this message, there are three buttons: 'Add members to this channel', 'Erstelle ein Board', and 'Set a Header'. The message history shows a system message from August 28: '@Steffen Brandt joined the channel. You and 2 others were added to the channel by @Steffen Brandt.' Below this, there is a date separator for 'August 31' and a text input field for writing to the channel. The input field has a placeholder text 'Write to 23W | Practical Engineering with LLMs' and a rich text editor toolbar with icons for bold, italic, strikethrough, heading, link, code, quote, list, and more options. The right sidebar contains icons for various features like a target, a clipboard, a list, and a document.

Channels

Search

opencampus.sh

Find channel

Threads

CHANNELS

- 01 - General
- 03 - Kiel.AI
- 04 - Jobs
- 23S | Lehren und Lernen...
- 23W | Practical Engineering with LLMs**
- Coding.Waterkant
- Coding.Waterkant 2022
- Edu | Q&A
- EduHub Issues
- Kursleitungen
- LuL mit KI - Organisation

23W | Practical Engineering with LLMs

14

Tuesdays, 18:15-19:45 Uhr: Zoom; Handbook

Start call

## Beginning of 23W | Practical Engineering with LLMs

This is the start of the 23W | Practical Engineering with LLMs channel, created by Steffen Brandt on August 28, 2023. Any member can join and read this channel.

Add members to this channel

Erstelle ein Board

Set a Header

August 28

System 9:41 PM

@Steffen Brandt joined the channel.

You and 2 others were added to the channel by @Steffen Brandt.

August 31

Write to 23W | Practical Engineering with LLMs

B I S H | <> “ ” ☰ ☷ !

Aa ^ | 📎 😊 ➤

# **ORGANIZATIONAL MATTERS - Attendance**

## **In Presence:**

- **Scan the QR-Code if you participate in presence**

## **Online:**

- **Use your full names in the zoom meetings!**
- **Only counts as attended with camera on.**

# ORGANIZATIONAL MATTERS - ZOOM

- **Try the different viewing modes:**
  - **Gallery View/ Active Speaker**
  - **Split Screen/ Full Screen Mode**
- **Maybe watch this video to get an idea:**  
<https://www.youtube.com/watch?v=v3IPAbpVjd4>



Zoom Meeting



Select a Camera (Alt+N to switch)

NewTek NDI Video

✓ Integrated Camera

Choose Virtual Background...

Choose Video Filter...

Video Settings...

Steffen Brandt



Mute



Start Video



Security



Participants

Settings



General



Video



Audio



Share Screen



Chat



Background & Filters



Recording



Profile



Statistics



Keyboard Shortcuts



Accessibility

Window size when screen sharing:

☐ Fullscreen mode

☐ Maximize window

☒ Maintain current size

☒ Scale to fit shared content to Zoom window

☐ Show my Zoom Windows to other participants when I am screen sharing

☐ Enable the remote control of all applications

☒ Side-by-side mode

☒ Silence system notifications when sharing desktop

When I share my screen in a meeting

☐ Automatically share desktop

☒ Show all sharing options

When I share directly to a Zoom Room

☒ Automatically share desktop

☐ Show all sharing options

Advanced



- **Getting to know each other**
- **What can you expect**
- **Organizational matters**
- **Course outline**
- **Requirements for credits**
- **Demos**
- **Breakout sessions**
- **Tasks for next session**

<b>24.10.2023</b> 18:15 - 20:00	<b>General Introduction</b> Zoom + Starterkitchen, Kuhnkestr. 6, Kiel
<b>07.11.2023</b> 18:15 - 20:00	<b>Prompt Engineering</b> Zoom + Starterkitchen, Kuhnkestr. 6, Kiel
<b>14.11.2023</b> 18:15 - 20:00	<b>Introduction to LangChain</b> Zoom + Starterkitchen, Kuhnkestr. 6, Kiel
<b>21.11.2023</b> 18:15 - 20:00	<b>Introduction to Retrieval Augmented Generation</b> Zoom + Starterkitchen, Kuhnkestr. 6, Kiel
<b>28.11.2023</b> 18:15 - 20:00	<b>Advanced Retrieval Augmented Generation</b> Zoom + Starterkitchen, Kuhnkestr. 6, Kiel
<b>05.12.2023</b> 18:15 - 20:00	<b>Building User Interfaces with Gradio</b> Zoom + Starterkitchen, Kuhnkestr. 6, Kiel
<b>12.12.2023</b> 18:15 - 20:00	<b>Evaluation of LLM outputs and structured output</b> Zoom + Starterkitchen, Kuhnkestr. 6, Kiel
<b>19.12.2023</b> 18:15 - 20:00	<b>Open-Source Large Language Models</b> Zoom + Starterkitchen, Kuhnkestr. 6, Kiel
<b>16.01.2024</b> 18:15 - 20:00	<b>Project Presentations</b> Zoom + Starterkitchen, Kuhnkestr. 6, Kiel





# COURSE OUTLINE- Handbook



opencampus.sh Machine  
Learning Program

EDU-Platform

Chat

Search



opencampus.sh Machine Learning  
Program

Course Kick-Off

How do I choose a course?

FAQ

## COURSES

Einführung in Data Science und  
maschinelles Lernen >

Machine Learning with TensorFlow >

Intermediate Machine Learning >

Time Series Prediction >

Machine Learning für die Medizin >



Powered By **GitBook**

## Practical Engineering with LLMs

Here are the articles in this section:

Week 1- General Introduction

Week 2 - Prompt Engineering

Week 3 - Introduction to LangChain

Week 4 - Introduction to Retrieval Augmented...

Week 5 - Advanced Retrieval Augmented Gen...

Week 6 - Building User Interfaces with Gradio

Week 7 - Evaluation of LLM outputs and struc...

Week 8 - Open-Source LLMs

Week 9 - Project Presentations

- **Getting to know each other**
- **What can you expect**
- **Organizational matters**
- **Course outline**
- **Requirements for credits**
- **Demos**
- **Breakout sessions**
- **Tasks for next session**

# **REQUIREMENTS - Overview**

**Requirements to get course credits and a certificate ...**

- **Attendance**
- **Active participation in the sessions**
- **Presenting homework / exercises**
- **Coding a project with your group**



# **REQUIREMENTS - Attendance**

- **You can miss at most 2 sessions**
- **Participation is only counted if you have scanned the QR code in presence or use your full name and have your camera turned on in Zoom**

# **REQUIREMENTS - Exercises**

- **The course handbook encompasses homework (exercises)**
- **Each week two to four of you will present the exercises given in the course handbook (quick and dirty)**
- **Each of you presents at least once**

**EXERCISES:**  
**WHO WILL PRESENT NEXT WEEK?**

# REQUIREMENTS - Projects

- **We will form project groups in session 2 or 3**
- **Therefore you should bring some potential project **ideas** to the next session**
- **We will also bring some possible project ideas to the next session**

- **Getting to know each other**
- **What can you expect**
- **Organizational matters**
- **Course outline**
- **Requirements for credits**
- **Demos**
- **Breakout sessions**
- **Tasks for next session**



# Demos - Showcasing projects

# Demos - Some LLM providers

Provider	Models	Context window	Free tier	Playground available
OpenAI	gpt-3.5-turbo gpt-3.5-turbo-16k gpt-4 gpt-4-32k	4,097 Tokens 16,385 Tokens 8,192 Tokens 32,768 Tokens	5\$ for the first three months	yes (OpenAI Playground)
Anthropic	Claude Instant Claude 2	100,000 Tokens 100,000 Tokens		no
Cohere	Generate Chat	2,048 Tokens ?	Free tier with rate limit via Trial API key	yes (Cohere Playground)
Google	PaLM 2	8,000 Tokens		no
MosaicML	LLaMa-2-70B-Chat MPT	4,096 Tokens		no
Aleph Alpha	Luminous	?		yes (Aleph Alpha Playground)
and many more				

- **Getting to know each other**
- **What can you expect**
- **Organizational matters**
- **Course outline**
- **Requirements for credits**
- **Demos**
- **Breakout sessions**
- **Tasks for next session**

# FIRST BREAKOUT

- **15-20 Minutes**
  - **Introduce yourself briefly to the others!**
  - **What good or bad experiences do you have with ChatGPT?**
  - **Have you already experimented / worked with other LLMs?**
  - **As a group, generate 3 ideas which apps you could build with LLMs!**
- **Present your ideas afterwards to the plenum!**

- **Getting to know each other**
- **What can you expect**
- **Organizational matters**
- **Course outline**
- **Requirements for credits**
- **Demos**
- **Breakout sessions**
- **Tasks for next session**



# TASKS UNTIL NEXT WEEK

- Watch the provided videos, work through the course “ChatGPT Prompt Engineering for Developers and read the provided texts (-> Course Handbook)
- Complete tasks 1-4
  - Who presents task 1 and 2?
  - Who presents task 4?
- Bring questions!