Contract: BSc project

PERSONAL INFORMATION

Ucph-username *

dlf903

First name *

Marcus

Surname *

Rasmussen

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mnsr@hotmail.dk

Telephone number *

81740306

Bachelor i machine learning og datavidenskab *

Specialisation (if applicable)

Specialisation (if applicable)

INFORMATION ABOUT MAIN SUPERVISOR

Name *

Bulat Ibragimov

E-mail *

bulat@di.ku.dk

Department

Department	Department of Computer Science	*
Department	Choose from the list	*
Department	Choose from the list	*
Department	Choose from the list	*

INFORMATION ABOUT THE PROJECT PERIOD

Full time in one block: *

○ Block 1   ○ Block 2   ○ Block 3   ○ Block 4   ○ Block 5

Part-time in two blocks:

○ Block 1+2   ○ Block 2+3   ● Block 3+4   ○ Block 4+5   ○ Block 5+1

Date of submission for project report: *

10/06/2024

Note: The date for submission can not be earlier than two weeks before the exam week in the project's last block

THE FOCUS OF THE BSC PROJECT

☐ The BSc project is prepared in cooperation with a company

☐ The BSc project is prepared as a group project

Please state in which language the BSc project is prepared *

○ Danish ⦿ English ○ Swedish ○ Norwegian

Title/topic of the BSc project *

Cellular Cartography: Navigating the Histological Terrain of IBD with AI

Description *

This bachelor's project explores the integration of artificial intelligence in the medical field, focusing on the study of Inflammatory Bowel Disease (IBD). The core objective is to develop and evaluate an AI-based framework, utilizing models like StarDist, for the accurate segmentation, identification, and classification of inflammatory cells in histological images from IBD patients. The overarching goal is to predict the disease severity of a given patient, whom a given histological sample is extracted from. This would be done by correlating disease severity with the segmentation map of inflammatory cells. The project aims to create a faster and more reliable solution to histological disease severity analysis than what is currently modern-day practice. Key challenges of the projects include processing very large input data (in terms of spatial resolution) with deep learning models and producing accurate segmentation maps on input with finegrained details

BSC PROJECT WITH A COMPANY

The BSc project is carried out in cooperation with the following company/organisation: *

Name of the company

Information about the contact person in the company/organisation:
Name *

Name

E-mail *   **Telephone number** *

E-mail   Telephone number

Place of employment *

Place of employment

BSC PROJECT AS GROUP PROJECT

Add the other members of the group here

INFORMATION ABOUT SUPERVISION

The main supervisor and the student(s) must align their expectations for the project process with each other by providing the following information:

State the expected number of hours of supervision: 15   *

State how often you need to meet (prepare meeting schedule if needed):   *

Fixed meetings to catch up on completed work + the possibility to make extra meetings if needed.

State what is expected of the supervisor at the meetings: *

The supervisor is expected to provide technical guidance on algorithm selection, problem-solving, debugging, testing, and verification, while also offering academic support, feedback, maintaining effective communication, and fostering a positive, collaborative learning environment. Their role is to guide, assess, and enhance the overall quality and progress of the project.

State what is expected of the student(s) at the meetings: *

The student is expected to actively engage in the project, apply learned concepts, problem-solve, demonstrate initiative, communicate effectively, and consistently contribute to the project. They should be open to feedback, strive for continual learning, and maintain a high standard of academic integrity and professionalism throughout the project

Other:

SIGNATURES

Read where you must submit the contract: Studieinformation på KUnet > Bachelorprojekt og andre projekter > Tilmelding og kontrakt.

BSc student

Date

28/01/2024

When signing this contract I guarantee that I have read the university's guidelines on how to avoid plagiarism: Studieinformation > Kurser og undervisning > God videnskabelig praksis.

Main supervisor

Date

31/01/2024

Head of studies

Date

Head of department or deputy head of department

Date

Read more about UCPH's **data policy (https://informationssikkerhed.ku.dk/english/)**