



Data Science and Artificial Intelligence M.Sc.

Application Information

Application period: 1 June - 15 July (winter term)

Semester start: October 1st (winter term)

Language(s) of instruction: English

Introduction

Welcome to the application process for the Master program "Data Science and Artificial intelligence" (DSAI) of Universität Hamburg (UHH). Thank you for choosing our program.

The convergence of data science and artificial intelligence represents a pivotal advancement in technology with far-reaching implications across industries. At its core, data science harnesses the power of data to extract insights, patterns, and trends, enabling informed decision-making. Meanwhile, artificial intelligence empowers machines to mimic human intelligence, enabling automation, prediction, and problem-solving. Combined together, these two fields have already revolutionized fields such as healthcare, finance, and marketing.

However, several challenges in data science and artificial intelligence remain to be solved.

Extracting meaningful insights from vast and complex datasets requires advanced analytical skills, computational proficiency, and domain expertise. Using artificial intelligence technologies also involve studying their design through an ethical lens to guarantee privacy protection and bias mitigation. Addressing these challenges requires a multidisciplinary approach, combining expertise in statistics, computer science, mathematics, and domain-specific knowledge. Our Master of Science in Data Science and Artificial Intelligence equips students with the necessary skills and knowledge to navigate these challenges, empowering them to drive innovation, solve complex problems, and make a meaningful impact in an increasingly data-driven world.

Please follow closely the next steps for a successful application!

Admission Requirements

Despite offering the program to a wide range of students, applicants should have a strong background in computer science or a related field since programming and mathematical knowledge is assumed. Moreover, applicants need to have very good command over the English language in order to follow lectures and exams. We can only consider your application if you meet all of the following three conditions. Otherwise, your application will be automatically rejected, without exception.

1. You meet the minimum requirements.
2. Your application contains all required documents
3. You submit your application during the application period on our portal. Application period opens June 1st and closes July 15th 11:59 pm C.E.T.



Minimum Requirements

(1a) A Bachelor's degree from the Faculty of Informatics, Mathematics, Natural Sciences, from Universität Hamburg in:

- Informatik (Computer Science)
- Computing in Science

OR

(1b) a Bachelor's degree in a related field insofar as the following minimum ECTS credit points were obtained: 24 ECTS credit points in mathematics, from which 6 ECTS credit points were obtained in the field of stochastics; 60 ECTS credit points in computer science, from which 6 ECTS credit points were obtained in studying algorithms and data structures, or theoretical computer science.

In the case **(1b)**, please provide all the information justifying for the asked ECTS credit points. That means describing the courses taken during the Bachelor's degree, explaining their title and content shortly, and highlighting their connection to the required fields. Ex: My 2nd semester "Random Processes" course involves the study of discrete- and continuous-time random variables, including e.g. Markov chains. 9 ECTS credit points were obtained during this course, therefore fulfilling the minimum requirement of 6 ECTS for a mathematic module focused on stochastics.

If possible, please provide these explanations in form of a table, with each row containing a relevant module studied during your Bachelor's degree.

If you have not yet completed a Bachelor's degree program that meets the requirements listed above, you may be admitted if you are able to prove that you have both acquired at least 150 ECTS credit and are officially registered as having started your Bachelor thesis. If you are unable to provide this evidence, please describe in a separate document, including a timetable, how you will complete the outstanding coursework and examinations by the end of the first Master's semester and still successfully start your Master's degree in the first Master's semester.

(2) English language proficiency, justified by one of the following:

- Attestation of a B2 English level provided by a course in your university or equivalent institution.
- International English Language Testing System (IELTS) certificate with a grade of at least 5.5
- Test of English as a Foreign Language (TOEFL) certificate with a grade of at least 72
- Cambridge Certificate of Advanced English (CAE)
- Proficiency in English (CPE)
- Higher Business English Certificate (BEC)



- First Certificate in English (FCE)
- Bachelor's degree in an English-speaking curriculum
- Highschool degree in an English-speaking highschool
- Six (or more) months internship in an English-speaking country
- Seven years of English courses in a German-speaking school

Recognition of Transcripts for Degree Programs Completed at Foreign Higher Education Institutions

If you obtained your first degree abroad, your certificate will be reviewed during the application procedure in the faculty of your program.

If your degree certificate is not in English or German, please include a copy of a certified English or German translation of the certificate with your application documents.

Application

Online Application

You will need to complete the online application available on Universität Hamburg's application portal during the application period: www.uni-hamburg.de/online-application. Please create a user account, enter your information online, upload the required documents to your online application and submit your application online.

The application procedure for the master program is an online procedure. This means that you do not need to submit any documents in paper form or via email to Universität Hamburg. Instead, you have to upload the documents. Selection is based on the information you provide online and the documents you upload.

If you want to submit an additional special application (e.g. hardship application), you will need to send this special application separately via the online application portal together with the required proofs as an upload by the application deadline. For more information on special applications, please see www.uni-hamburg.de/sonderantrag and www.uni-hamburg.de/info-master.

Documents to Submit

Upload all the individual documents listed below as PDF files in German or English (or a certified translation into German or English). The file upload capacity is limited to 9MB. The deadline for document upload (i.e. end of the application period) is July 15th 11:59 pm C.E.T. The documents listed as [Optional] below must be included as additional documents. Read more about the STiNE online form here. These documents must all be provided in the following order, and before the application deadline:

1. The filled-in cover letter form listing personal information. Use the template available here: <https://www.inf.uni-hamburg.de/studies/master/dsai/msc-dsai-application/cover-letter.pdf>
2. A table-style Curriculum Vitae.
3. Proof of English language proficiency.
4. Your transcript of records, as delivered by your University if English-speaking, or translated to English if not. Highlight in this transcript the relevant courses regarding the minimum requirements listed before.
5. The (ideally table-style) description of your modules attesting that you fulfill the minimum requirements.
6. Bachelor degree certificate, as delivered by your University. You can still apply if (at most) one semester is missing for completing your degree, but this must be evident in the transcript provided. In the latter case, 150 ECTS credit must have been earned, and the minimum requirements must be fulfilled at the date of application (minimum 24 ECTS in mathematics including 6 ECTS in stochastics, and 60 ECTS in computer science including 6 ECTS in algorithms and data structures or theoretical computer science). Upon admission, the final transcript and Bachelor degree certificate must be provided.
7. A description of your Bachelor degree, either delivered by your University, and if not, created by you. Most universities deliver this as an official document. It usually contains
 - Your degree's grading system and computational rules, if the grade is not stated in your transcript. You should at least provide the minimal, minimal passing and maximal grades.
 - The standard amount of semester required for completion of your degree.
 - The total amount of credit hours or ECTS credit points required for completion of your degree.
 - The description of how many weeks of in-class (=contact hours) time with a lecturer present you have per semester.

If you have to create this document yourself, or even partially because some parts are missing in the document provided by your University, you can use resources such as letters of recommendation from your lecturers, screenshots from your University course's website (providing the link and highlighting the relevant information).

8. Your final grade, as officially provided by your University, if it is not already evident in your transcript. If you are still missing one semester to complete your degree, the preliminary final grade estimate must be computed by your University and provided in an official document.
9. Your University's grading scale: you must at least provide the minimal, minimal passing and maximal grades.
10. [Optional] Evidence of research, professional or international experience Please here only include evidence of experience that is strictly relevant to the DSAI Master. More general experience should be included in your table CV.



Selection Criteria

If the applications that meet the special admission requirements exceed the number of places available for the Master's degree program in Data Science and Artificial Intelligence for the selection procedure, the selection will be made as follows:

(1) The final grade (or official preliminary final grade estimate in case of a missing semester of studies) of your Bachelor's degree.

(2a) The content of your Bachelor's degree, as compared to the equivalent Bachelor's degree program in Informatics from the MIN Faculty of Universität Hamburg.

(2b) The content of your Bachelor's degree, as compared to the equivalent Bachelor's degree program Computing in Science from the MIN Faculty of Universität Hamburg.

(3) Your selection of modules during your Bachelor's degree, as relevant to the DSAI Master. This includes elective modules (including projects, seminars, etc.), as well as relevant internships, professional experience or proven open source projects.

The note for criterion **(2)** will be the best out of the note for **(2a)** and for **(2b)**, which is equivalent to saying that your Bachelor's degree will be compared to what seems the closest (content-wise) to either of the Bachelor's degree programs in Informatics or Computing in Science from the MIN Faculty of Universität Hamburg.

The criteria above are weighted as follow: Criterion **(1)** (grade) is weighted by 30%. Criterion **(2)** (B.Sc. content) is weighted by 40%. Criterion **(3)** (module selection) is weighted by 30%.

The selection decision is made by a selection committee consisting of three lecturers from the Master's degree program in Data Science and Artificial Intelligence, two of whom are qualified examiners.

Admission and Enrollment

Once your application has been reviewed, an acceptance or rejection letter will be made available in your STiNE account under the Dokumente (Documents) tab. Please see the information at www.uni-hamburg.de/online-application. An enrollment deadline will be indicated in your acceptance letter - please submit the documents required for enrollment by this date. The enrollment process is an online process. Detailed information about the enrollment process is provided at www.uni-hamburg.de/masterenrollment.



Contact

The DSAI Team is part of the Department of Informatics, Universität Hamburg. The DSAI Team is responsible for the application process, selection process, program coordination, curriculum, questions about the Master program Data Science and Artificial Intelligence, counseling of students and applicants. The DSAI Team running the program contains the admission board (a group of professors, post-doctoral researchers, lecturers, academic advisors who assess your application). The current academic advisors are Prof. Dr-Ing. Timo Gerkmann, and M.Sc. Jean-Marie Lemercier.

For any question related to the Master program Data Science and Artificial Intelligence, regarding either curriculum, application and admission procedure, or the website, please send us an e-mail at the following address:

dsai-info.inf@uni-hamburg.de.

We will answer important emails for each applicant only once within the application period. Thank you for your understanding.

Last updated: May 2024