Self-disclosure for M.Sc Data Science at TU Dortmund University

Dear interested Data Science students,

Many thanks for your interest in our Master program. Before you apply for our program, we ask you to carefully read and fill out this document. It will help you to pre-check our admission criteria and to evaluate whether you are eligible for our program. This document is only meant for you to self-check your eligibility; we will confirm all information by actually checking your transcript of records. Moreover, you have to sign this document in the end to confirm that you completed the self-test and the special functional qualification.

Surname/Family name:	Laxminarayana
First name/Given name:	Chaithanya
Bachelor degree:	B.tech in Computer Science and Engineering
Bachelor University (name and place):	Presidency University, Bengaluru, India

Admission requirements

In order to be eligible for our Master program, you have to fulfill five different admission criteria. As long as you fulfill all of these criteria, a seat in our program is guaranteed for you. Due to cross-semester admission, admissions are usually valid for three subsequent semesters.

Criterion 1: Orientation of your Bachelor degree

In order to be eligible, your Bachelor degree has to be the Bachelor degree in *Data Science* from TU Dortmund University. Alternatively, we consider your Bachelor degree to be eligible, if it is Computer Science / Mathematics / Statistics oriented. It has to be not from one of these three fields, but **it has to cover the important basics of all three of these fields**. More specifically, our examination regulations define clear criteria for this, which your Bachelor's program must fulfill. You can find the details on our website (https://statistik.tu-dortmund.de/en/studies/degrees/data-science-msc/admission/

First, you have to transform the credits (or hours per week) of your university into our ECTS system. To do so, calculate your average number of credits per semester. Divide 30 by this number and multiply all of your credits with this factor. For example, if you had 20 credits per semester on average, you have to multiply your credits with 1.5. Please round reasonable.

We require your Bachelor program to contain the following achievements. Please list them in the tables below. If you do not fulfill all of these criteria, it might nevertheless be possible that you can be admitted under certain conditions. Please note that each of your courses can only be counted once.

We are not allowed to count any additional qualifications, such as courses from additional master degrees, professional experience or online courses from platforms like Coursera. Please only list courses from your Bachelor program.

1. 8 ECTS in mathematics courses. Possible fields for those courses are "Calculus", "Linear Algebra", "Differential Equations", "Discrete Mathematics" and "Numerics".

Course title	ECTS
CSE 203 Discrete Mathematics	5
MAT 101 Engineering Mathematics- 1	5
MAT 102 Engineering Mathematics- 2	5
MAT 103 Engineering Mathematics- 3	5

2. 8 ECTS in Computer Science courses. Possible fields for those courses are “Programming” “Algorithms”, “Data Structures”, “Object-Oriented Programming” and “Software Engineering”. If your Bachelor did not cover 8 ECTS in courses about “Data Structures, Algorithms and Programming” that are on the level of a Bachelor in Computer Science, you have to take such a (pre-requisite) course after enrollment. E.g., if your degree only covered a single course “Introduction to Programming / Computer Science”, you would have to take the pre-requisite.

Course title	ECTS
CSE 201 Data Structures	4
CSE 212 Analysis of Algorithms	4
CSE 227 Software Engineering and Project Management	4
CSE 151 Computer Programming	5

3. A course of at least 4 ECTS that covered an introduction to (descriptive) statistics or probability theory. Please note: It must be a single course entirely focused on statistics. For example, a combined course on “Numerical and Statistical Methods” would not count here. If your Bachelor did not cover such a course, than you are not eligible for our program.

Course title	ECTS
MAT 104 Engineering Mathematics- 4	5

4. Courses of at least 8 ECTS in the field of Advanced Statistics, possible fields for those courses are “point estimation”, “interval estimation”, “hypothesis testing” and “stochastics”.

Course title	ECTS
CSE 209 Graph Theory and Combinatorics	5

5. The sum of courses in 1., 2., 3. And 4. must be at least 44 ECTS. If your sum of courses is less, than you are not eligible.

SumofECTS
47

6. A course of at least 4 ECTS in the field of introduction to databases.

Course title	ECTS
CSE 207 Database Management Systems	4

7. Courses of at least 8 ECTS in the field of Data Modelling, possible fields are “(generalized) linear linear models”, “statistical / machine learning methods”, “time series”, “artificial intelligence”, “neural networks”, “deep learning” and “(practical) optimization”.

Course title	ECTS
CSE 308 Artificial Intelligence	4
CSE 319 Machine Learning	4

If you did not have enough credits in the fields 2, 4, 6 or 7 you might still be eligible, but you have to take some additional stipulate courses after enrollment. It is only allowed to take stipulates in two of the three areas 2., 4. and 7. If you would have to take pre-requisites in all of them, than you are not eligible for our program. A stipulate in 6 might be required on top of this. If your program covers less than 44 ECTS in field 5, this cannot be changed by taking any stipulates.