# Degree certificate

Albert-Ludwigs-Universität Freiburg

UNI FREIBURG

Technische Fakultät

## Farooq Ahmed Zuberi

born on December 1, 1990

completed the degree program

## Master of Science (M. Sc.)

in

## Computer Science

on April 4, 2017

with the final grade of

## excellent (1.4)

and has earned 120 ECTS credits.

Master's Thesis: excellent (1.5)

Title: CloudSeg: Semantic Segmentation of 3D Point Clouds Using Deep Learning

Freiburg i. Br., May 22, 2017

Prof. Dr. Ulrich Egert

Chair of the Examination Committee

ID 4174785

EXA 257s(e) (03/2017)

# Albert-Ludwigs-Universität Freiburg

Technische Fakultät

## Transcript of records

## for

## Farooq Ahmed Zuberi

born on December 1, 1990

**Degree program: Master of Science (M. Sc.), Computer Science, Major, 2011**

| | Grade/Status | Credits | Remark |
|---|---|---|---|
| **Mandatory Modules M.Sc. Informatik (PO-Version 2011)** | 1.4 | 70 | SS 2017 |
| Master Module | 1.5 | 30 | SS 2017 |
| Master's Thesis<br>Topic: CloudSeg: Semantic Segmentation of 3D Point Clouds Using Deep Learning | 1.5 | 25 | WS 2016/17 |
| Presentation of the Master's Thesis | BE | 5 | SS 2017 |
| Core field in Computer Science | 1.7 | 6 | SS 2015 |
| Grundlagen der Künstliche Intelligenz / Foundations of Artificial Intelligence - Examination | 1.7 | 6 | SS 2015 |
| Master project | 1.0 | 16 | WS 2015/16 |
| Project | 1.0 | 16 | WS 2015/16 |
| Laboratory | BE | 6 | WS 2014/15 |
| Laboratory in the research field "Machine Learning" | TRE | 6 | WS 2014/15 |
| Deepening in Computer Science | 1.8 | 12 | WS 2016/17 |
| Maschinelles Lernen / Machine Learning - Examination | 2.0 | 6 | WS 2016/17 |
| Systeminfrastruktur für Data Science / System Infrastructure for Data Science - Examination | 1.7 | 6 | WS 2014/15 |
| **Elective Modules Master of Science in Computer Science** | 1.2 | 50 | SS 2016 |
| Application Area Biology | 1.2 | 18 | SS 2016 |

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| | Grade/Status | Credits | Remark |
|---|---|---|---|
| Computational Neuroscience | 1.2 | 18 | SS 2016 |
| Computational Neuroscience- Modulteil 1 | BE | 4 | SS 2016 |
| Neuroscience - The Basics: Basic and Systems Neurobiology - Studienleistung | BE | 4 | SS 2016 |
| Computational Neuroscience - Modulteil 2 | 1.0 | 7 | SS 2016 |
| Models of Neurons and Networks - Prüfung | 1.0 | 7 | SS 2016 |
| Computational Neuroscience - Modulteil 3 | BE | 5 | SS 2016 |
| Simulation of Biological Neuronal Networks- Studienleistung | BE | 5 | SS 2016 |
| Computational Neuroscience - Modulteil 4 | 2.0 | 2 | SS 2016 |
| Current Research Topics in Systems Neuroscience (S1) | 2.0 | 2 | SS 2016 |
| Current Research Topics in Systems Neuroscience- Prüfung | 2.0 | | SS 2016 |
| Specialization in M.Sc. Computer Science PO-Version 2011 | 1.3 | 32 | SS 2015 |
| Kognitive technical Systems - Specialization | 1.3 | 32 | SS 2015 |
| Seminar in the research field "Foundations of Artificial Intelligence" | 2.0 | 4 | SS 2015 |
| Seminar in the research field "Social Robotics and Human-Robot Interaction" | 0.0 | 4 | SS 2015 |
| Kognitive technical Systems - Specialization in Computer Science I | 1.3 | 12 | WS 2014/15 |
| Handlungsplanung / Artificial Intelligence Planning - Examination | 1.7 | 6 | WS 2014/15 |

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| | Grade/Status | Credits | Remark |
|---|---|---|---|
| Mensch-orientierte Robotik / Human-Oriented Robotics - Examination | 1.0 | 6 | WS 2014/15 |
| Kognitive technical Systems - Specialization in Computer Science II | 1.3 | 12 | SS 2015 |
| Einführung in die Mobile Robotik / Introduction to Mobile Robotics - Examination | 1.3 | 6 | SS 2015 |
| Statistische Mustererkennung / Statistical Pattern Recognition - Examination | 1.3 | 6 | SS 2015 |

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## Farooq Ahmed Zuberi

born on December 1, 1990

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| | |
|---|---|
| **Overall ECTS credits:** | 120 |
| **Final Grade for Degree Program:** | 1.4 |
| **Completion of Degree Program:** | April 4, 2017 |

Freiburg i. Br., May 22, 2017

Prof. Dr. Ulrich Egert

Chair of the Departmental Examination Committee

BE passed TRE regular attendance confirmed

## Transcript of Records – Explanations

According to the Examination Regulations of the University of Freiburg for the Master's Program in "Computer Science" – Academic regulations 2011

### 1. Information's and abbreviations

| | | |
|---|---|---|
| **„Grade/Status"** | Note value: | Grading of the Modules/Examinations |
| | BE: | pass; Modules, which are credit-only and are graded as "BE" if successfully completed. |
| **„ECTS-Points"** | Point value: | The sum of the credit for the course examined is given in ECTS (European Credit Transfer and Accumulation System). ECTS-Points are awarded for each Module, which approximately correspond to the scope of the course in each case.<br>1 ECTS-Point stands for 30 working hours |
| **„Grader"** | Name: | The Examination Committee appoints the graders of an Examination/ a Module. |
| **„Remark"** | Accreditation: | A period of study completed at another university or other equivalent institute of tertiary education, which is acknowledged as being equivalent to this program. |

### 2. Grading of Examinations/Modules and the Bachelor's Thesis

| | | |
|---|---|---|
| 1.0/1,3 | very good/ excellent | an excellent level of achievement |
| 1.7/2.0/2.3 | good | a level of achievement lying considerably above the average requirements |
| 2.7/3.0/3.3 | satisfactory | a level of achievement fulfilling the average requirements |
| 3.7/4.0 | sufficient | a level of achievement which, despite certain deficiencies, still fulfils the requirements |

### 3. Calculation of the Module Grade

The module grade is build from the ECTS-point weighted average (weighted arithmetic mean) of the partial examinations.

### 4. AwardedFinal Grades

| | |
|---|---|
| With an average of up to 1.5: | excellent/very good |
| With an average of 1.6 to 2.5: | good |
| With an average of 2.6 to 3.5: | satisfactory |
| With an average of 3.6 to 4.0: | sufficient |

### 5. Overall assessment „with distinction"

If the grade for all the modules is 1.3 or better, the overall assessment of "with distinction" will be awarded.