ETHlogo

**Lecture with Computer Exercises:**

**Modelling and Simulating Social Systems with MATLAB**

Project Report

|  |
| --- |
| Smart Microgrid with Electric Vehicles |

Xingliang Fang

Seoho Jung

Huiting Zhang

Zürich

11 December 2015

**Agreement for free-download**

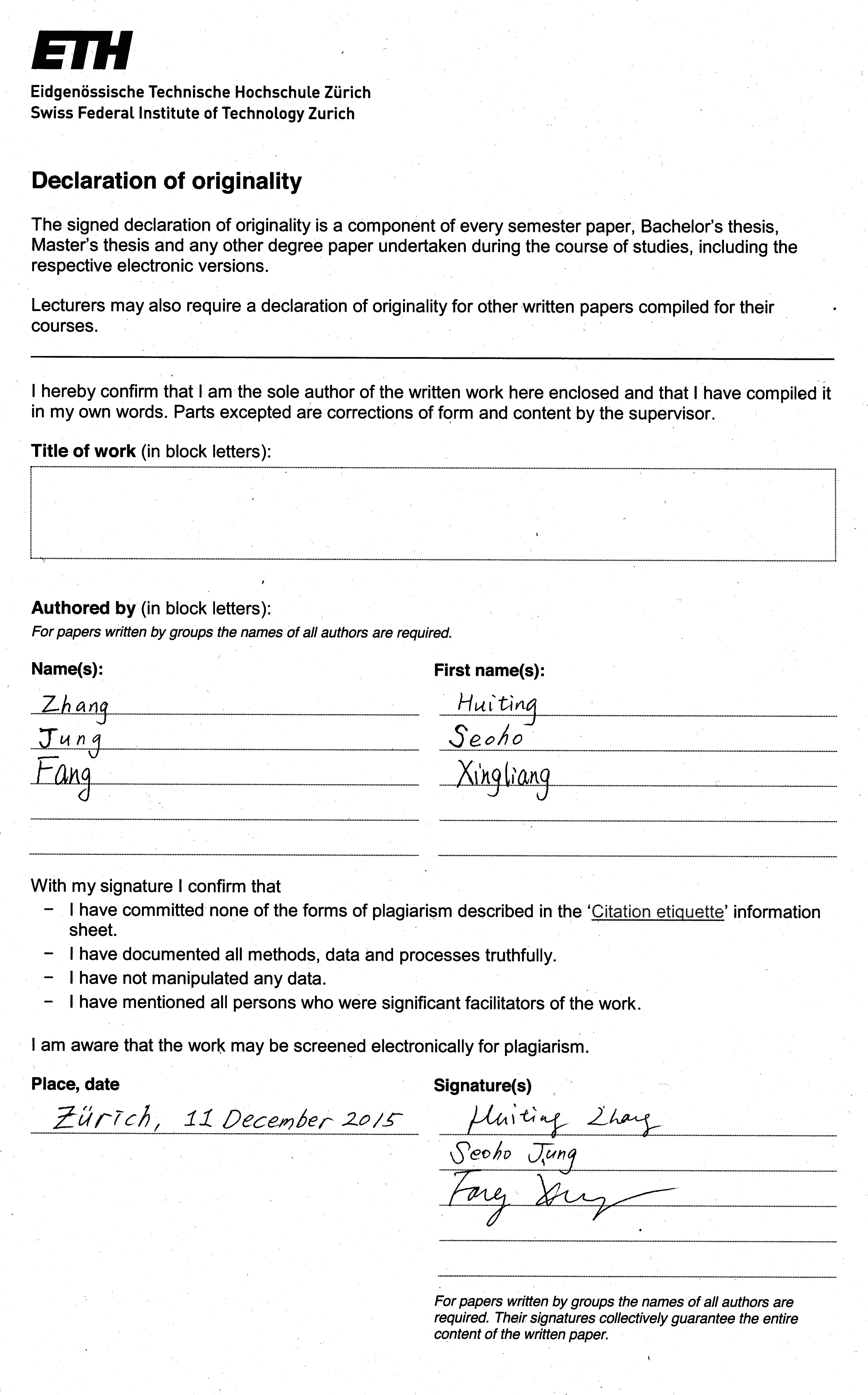
We hereby agree to make our source code of this project freely available for download from the web pages of the SOMS chair. Furthermore, we assure that all source code is written by ourselves and is not violating any copyright restrictions.

Zürich, 11 December 2015

Xingliang Fang

Seoho Jung

Huiting Zhang



Smart Microgrid with Electric Vehicles

**Table of Contents**

|  |  |  |
| --- | --- | --- |
| **1**  **2**  **3**  **4**  **5**  **6**  **7**  **8**  **9**  **10** | **Abstract**  **Individual Contributions**  **Introduction and Motivations**  3.1 Background  3.2 Objectives  **Description of the Model**  4.1 EV Agent Model  4.2 Alternative Charging Plans  4.3 EPOS  **Implementation**  5.1 Overview  5.2 Driving Profile Generation with NHTS Travel Data  5.3 State of Charge (SOC)  5.3.1 SOC with Regular Charging Plan  5.3.2 SOC with Alternative Charging Plans  5.4 Power Consumption  5.5 EPOS  **Results and Discussion**  **Summary and Outlook**  **Acknowledgements**  **References**  **Appendix** | 6  7  8 |

**1 Abstract**

**2 Individual Contributions**

**3 Introduction and Motivations**

**4 Description of the Model**

**5 Implementation**

**6 Results and Discussion**

**7 Summary and Outlook**

**8 Acknowledgements**

**9 References**

**10 Appendix**