

# Hamid Aghel

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## ● ABOUT ME

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I am Hamid Aghel. I hold a Bachelor of Science in Civil Engineering and a Master of Science in Transportation Systems Engineering from Sapienza University of Rome, where I maintained a GPA of 28.81 out of 30 and earned a final grade of 110 out of 110 with honors (e lode).

In my research, I've focused into the "Investigation of an Explicit Formulation of the Optimal Cycle Length at Isolated Signalized Junctions Based on the Highway Capacity Manual (HCM) Delay Model." Throughout my thesis, I've utilized regression analysis, machine learning, deep learning techniques, and optimization algorithms to derive optimal cycle length formulae and models for signalized junctions. I present a novel formula that surpasses Webster's optimal cycle length in terms of comprehensiveness and precision.

In addition to traffic engineering, my interests span across various fields including data processing and analysis, Intelligent Transportation Systems (ITS), Railway Systems, Urban Transport Systems, and their economics. Furthermore, I possess advanced computer skills in network management, hardware technical support, and IT operational roles. Driven by a passion for advancing intelligent transportation systems, I seek to harness the power of IT and AI to optimize traffic flow, enhance safety, and promote sustainable mobility.

## ● WORK EXPERIENCE

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27/09/2014 – 27/09/2015 Mashhad, Iran

**MANAGER OF COMPUTER SERVICES OFFICE OWNER**

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I managed and developed the internet network services in my city by holding this office.

21/06/2016 – 21/09/2016 Mashhad, Iran

**INTERNSHIP SIVAN SHARGH**

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During my internship program, I learned all procedures and processes of building and developing construction, the procedure of authorities' permission, creating and modifying in-built plans, quantity surveying and estimating as well as all empirical methods that I had learned civil engineering.

20/09/2016 – 21/05/2017 Mashhad, Iran

**TEACHER ASSISTANT CIVIL ENGINEERING FACULTY OF AZAD UNIVERSITY OF MASHHAD**

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I have tutoring and teaching experience in civil engineering courses such as Road Design and Construction, Reinforced Concrete Structures, Fluid Mechanics.

22/11/2017 – 20/07/2020 Mashhad, Iran

**TECHNICAL TECHNICIAN MAADIRAN COMPANY**

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I learned repairing electronic devices and customer services of Maadiran digital products. (Full time in 2017-2018 and part time in 2018-2020)

20/06/2018 – 21/06/2020 Sarakhs, Iran

**SECONDARY SCHOOL TEACHER EDUCATION ORGANIZATION OF IRAN**

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I was teaching Mathematics, Physics, English for 2 years in high schools of education organization of Sarakhs.

12/05/2021 – CURRENT Rome, Italy

**STUDENT REPRESENTATIVE TRANSPORTATION SYSTEMS ENGINEERING DEPARTMENT OF SAPIENZA UNIVERSITY**

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I resolve students' issues in the board of the department as a member of CAD.

29/07/2022 – 09/2022 Karlsruhe, Germany

**INTERNSHIP HOCHSCHULE KARLSRUHE OF APPLIED SCIENCES IN GERMANY (PROF. JAN RIEL)**

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I developed my knowledge in MATSim and java programming.

01/01/2020 – CURRENT Rome, Italy

### **CONSULTING STUDENTS SELF-EMPLOYMENT**

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- Consulting students applying for Italy
- Applying for the universities
- Applying for the scholarships
- Applying for the Erasmus program
- Applying for all kinds of office works in Italy

16/01/2023 – 16/03/2023 Roma, Italy

### **STUDENT TUTORATION SAPIENZA UNIVERSITY OF ROME**

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Tutoring students at the information desk office at the civil engineering department.

## ● **EDUCATION AND TRAINING**

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23/09/2009 – 20/06/2013 Mashhad, Iran

### **DIPLOMA** Imam Reza high school - Education organization of Iran

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**Address** Farhad No 24, Mashhad, Iran | **Website** <https://razavi.medu.ir/> | **Field of study** mathematics and physics |

**Final grade** 19.13/20

23/09/2013 – 21/06/2017 Mashhad, Iran

### **B.SC.** Islamic Azad University Mashhad Branch

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**Address** Ostad Yusefi intersection, Mashhad, Iran | **Website** <https://mashhad.iau.ir/fa> | **Field of study** Civil Engineering |

**Final grade** 17.13/20

28/09/2021 – 12/07/2022 Karlsruhe, Germany

### **ERASMUS STUDY PROGRAM** Hochschule Karlsruhe university of applied sciences

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**Website** <https://www.h-ka.de/> | **Field of study** Transportation Systems Engineering | **Final grade** 1.7/5

22/09/2020 – 17/01/2024 Rome, Italy

### **M.SC.** Sapienza University of Rome

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**Address** Via Eudossiana, 18, 00184, Rome, Italy | **Website** <https://www.uniroma1.it/> |

**Field of study** Transportation Systems Engineering | **Final grade** 28.81/30 - 110/110 with honors |

**Thesis** Investigation of an Explicit Formulation of the Optimal Cycle Length at Isolated Signalized Junctions Based on The Highway Capacity Manual (HCM) Delay Model

## ● **CONFERENCES AND SEMINARS**

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06/09/2016 Athens

### **4th International Conference on Research in Engineering, Science and Technology**

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I collaborated with my colleague, Helma Ghasemzade, on this research project: "Provide a Method for Planned Maintenance and to Achieve High Reliability Plane." I wrote a MATLAB code to detect the probability of failure in different parts of the plane and predict the reliability of each of its systems that plays a very important role to the extent that it can be used to predict the reliability of the entire system. Even reliability can be used as one of the maintenance planning parameters. In this article, a method based on a multi-class system is presented, which predicts the reliability of each subsystem and then the flight reliability according to the parameters of the airplane subsystems. This international conference was held in Athens, Greece on 16/09/2016.

**Link** <https://www.sid.ir/paper/865718/fa>

10/07/2016 Rome, Italy

### **4th International Conference on Science and Engineering**

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I had collaboration with Helma Ghasemzade on this research topic: Investigating the effect of the neighborhood parameter in order to select the cluster head with the aim of increasing the lifetime of the wireless sensor network. I wrote a MATLAB code in machine learning part of this project to classify and choose the cluster head of wireless sensor network.

Link <https://civilica.com/doc/779056/>

06/03/2024 Mashhad, Iran

## 15th International Traffic and Transportation Conference with Artificial Intelligence Approach in Civil Engineering

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I presented two papers in this conference:

1- Influence of Human Factors in Bike-Sharing Systems: Hiring System, Safety, Phone Application, and Satisfaction: In this research, I compare the two different type of bike sharing systems. Bikes can be hired from station to station (dock-based) or free-floating (dockless). Station accessibility is one of the most essential elements that users consider when selecting a mode of transportation. In this research, questionnaires and surveys are used to explore three major human factors regarding accessibility connected to the hiring system, safety concerns, and how the phone application is user-friendly. These polls were conducted in Mashhad, Iran in comparison to Rome, Italy, in May and June 2022.

2- Subjective Traffic Safety for Cyclists:

Infrastructural and Cultural Impacts in Subjective Traffic Safety for Cyclists Crossing at Signalized Intersections. Cyclists are among the most vulnerable road users Despite traffic signal control, many bicyclists have conflicts with cars and pedestrians, particularly near junctions and intersections. The focus of this report is on the safety of cycling at intersections. Various elements, including human, vehicle, and environmental factors, all have a role in the occurrence of road accidents. The goal of this report is to look at several options and provide solutions for reducing cars or pedestrian-cyclist collisions at junctions. To resolve safety issues and reduce injuries, the first step is identifying the subjective of traffic safety in the case of study. This research focuses on two subjective aspects including infrastructural and cultural effects on traffic safety and how they make unsafe feeling to cyclists according to the well-known regulations and codes including the German code and NACTO.

Professor Gaetano Fusco (the Chair of the Transportation Systems Department of Sapienza University of Rome) and Professor Natalia Isaenko accepted my invitation to be key-note speakers in this international conference of traffic engineering and ITS holding Azad University of Mashhad (my former university of the bachelor program) in Mashhad, Iran.

Link <https://conference.nezammohandesi.ir/en/>

## LANGUAGE SKILLS

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Mother tongue(s): **PERSIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
<b>ENGLISH</b>	C1	C1	C1	C1	C1
<b>ITALIAN</b>	A1	A1	A1	A1	A1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

## DIGITAL SKILLS

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### General computer skills

ICDL Advanced Presentation | Microsoft Office

### Advanced computer skills

A+ | Network+ | MCSE 2015

### Programming languages

MATLAB | Python | Machine Learning | Fortran | HTML 5: HTML/CSS/JQuery | Delphi | Android programming

## Civil Engineering software

Civil 3D | MATSim | AIMSUN( basic) | Autodesk AutoCAD | ETABS | SAFE