Mohammad Hossein Haqiqat khah

mh@haqiqatkhah.ir

mhscientist@gmail.com

mh.haqiqatkhah@ut.ac.ir

Research Interests

- Historical Data Mining
- Social Network Analysis
- Approximate Reasoning
- Spatiotemporal Reasoning
- Historical Knowledge Modelling and Representation
- Statistical and Semantic Natural Language Processing
- Religious Studies
- History and Philosophy of Science
- Islamic and Middle Eastern Studies
- Philosophy of Mind and Consciousness

Education

1998 – 2003 Primary School, Adab Educational Center, Tehran, Iran

2003 – 2006 Comprehensive School, Solaha Educational Center, Tehran, Iran

2006 – 2009 High School, Mathematics and Physics, Solaha Educational Center, Tehran, Iran

- Cumulative GPA: 19.68/20

2009 – 2010 Pre University, Mathematics and Physics, Solaha Educational Center, Tehran, Iran

- Cumulative GPA: 19.84/20

2012 – Present B. Sc. in Electrical Engineering, Telecommunication, University of Tehran, Tehran, Iran

- Cumulative GPA: 😎 /20
- GPA in Courses on Humanities and Literature[1]: 😎 /20
- GPA in Courses related to Computer Science and Artificial Intelligence[2]: 😎 /20

Research Experience

- Research Assistant in **Microwaves Laboratory** (Under the Supervision of Prof. Dr. J. Rashed-Mohassel)
  - Literature Review and Simulations on Electromagnetic Metamaterials, especially Terahertz Metamaterials (Find the Presentation File Here)
  - Testing and Calibrating Vector Network Analyzer and Microwave Components
  - Renewing the Laboratory Equipment and Experiments
- Intern at **Thin Film Laboratory** (Under the Supervision of Dr. Z. Sanaee)
  - Synthesis of MOSFETs using Photolithography Techniques
  - Technical Literature Review on FTIR Spectroscopy
- Research Assistant and Development Intern in **BioElectromagnetic Laboratory** (Under the Supervision of Prof. Dr. R. Faraji-Dana and Dr. M. Saviz)
  - Design and Optimization of GSM-Band Wave Applicators Used in Biomedical Studies
  - Analyzing the Electromagnetic Characteristics of a State-of-the-Art Cancer Cell Sensor
  - Design and Optimization of a 1 GHz Wave Applicator to Study the Effect of Electromagnetic Waves on Detection of Cancer Cells
  - Design, Test and Optimization of a Wave Applicator to Study the Possible Effects of Electromagnetic Waves on Illuminating Proteins

[1] Consisting of General English, Islamic Theology 1 and 2, Persian Literature, Early Islamic History, Islamic Ethics and Moralities, Quran Interpretation, and History of 1979 Islamic Revolution in Iran.

[2] Consisting of Fundamentals of Programming, Probability and Statistics in Engineering, Artificial Intelligence, and Pattern Recognition.

    - Dielectric Spectroscopy of Aqueous Buffer Solutions at Microwave Frequencies
    - Design and Optimization of a Digitally Adjustable 1 GHz Electromagnetic Source for Biomedical Studies
- Research Assistant in **THz Photoelectronics Laboratory** (Under the Supervision of Dr. M. Neshat)
    - Design, Optimization and Development of mm-Wave/THz Varactor Frequency Multipliers
- Independent Research in **Applied Artificial Intelligence** and **Digital Humanities**
    - Detection and Restoration of Scribal Distortions and Diacritic Errors by Integrating Hidden Markov Models and Minimum Edit Distance Spell Checker Using a Combination of Rule-Based and Data-Driven Approaches (Presented at SHARP 2014 Religion of the Book Conference Digital Project Showcase)
    - Analyzing Tweets and Facebook Post about Different Islamic Pilgrimage Events (Ongoing Project in Contribution with Dr. Babak Rahimi)
    - Developing a Framework to Build a General Historical Expert System with Approximate Spatiotemporal Reasoning Based on Validity of Narrations (Accepted Poster submitted to the DH2015 Conference)
    - Analyzing Persian Poems Shared in Facebook and Finding Correlations Between the Styles and Topics with the Social Events (Accepted Poster submitted to the DH2015 Conference)
    - Spatio-Temporal Reasoning Based on Contradictory and Vague Narrations using Dempster-Shafer Theorem (Ongoing Bachelor Thesis Project under Supervision of Dr. Babak N. Araabi)
    - Literature Review on Classification Methods and a Case Study on Dividing Sediments on the Basis of Their Toxicity

Teaching Experience

- Teaching Assistant in **Microwaves Laboratory Course** (Fall 2013, instructor Prof. Dr. J. Rashed-Mohassel)

Self-Study

- Social Network Analysis
- Natural Language Processing
- Fuzzy Logic and Fuzzy Systems
- Probabilistic Graphical Models
- Ontological Engineering and Expert Systems
- Formal Logic
- Classic Arabic
- Islamic Philosophy
- Classic and Modern Islamic Theology
- Debates on Science and Religion Relations

Computer Skills

- Electromagnetics and Electronics Software
    - Ansoft HFSS, CST Studio Suite
        - Design and Simulation of X-Band Microwave Components
        - Design and Simulation of Different Wave Applicators for Biomedical Research
        - Design and Simulation of Electromagnetic Metamaterials
        - Electromagnetic Simulation of Cancer Cell Sensor
    - Agilent ADS
        - Design, Simulation, and Optimization of 55 to 110 GHz Varactor Frequency Doubler
        - Design, Simulation, and Optimization of Digitally Adjustable Electromagnetic Source
        - Design, Simulation, and Optimization of Operational Amplifier
- Digital Programming
    - FPGA Programming
        - FPGA-Based Digital Oscilloscope
        - FPGA-Based Digital Function Generator
        - FPGA-Based VGA Video Signal Generation
    - Microcontroller Programming
        - AVR-Based Touch-Screen Digital Phone Book
- Computer Programming and Other Software
    - C and C++ Programming
        - Object-Oriented Simulation of Electrical Systems
        - Various Projects
    - R Language
        - Development of a Fully Customized Spell Checker to Detect and Correct Scribal Distortions and Diacritic Errors in Proper Names of Bibliographies

- Mathematica
- Matlab and Simulink
- Altium Designer
- PHP and MySQL
- Verilog and SystemC
- Python and Java

Honors and Awards

2010 Ranked 154th in Iran National University Entrance Exam among more than 120,000 participants

2011 Entitled as Bright Talented Student and Full Scholarship Award during Undergraduate Studies

2014 Ranked 1st in Iran University Entrance Exam for Master Program in History of Science

Publications

- In Progress Translation of Book *Where the Conflict Really Lies: Science, Religion and Naturalism* by Prof. A. Plantinga (With a Personal Permission by the Author, it is Supposed to be Finished by April)
- Scribal Distortion and Diacritic Error Detection and Restoration in Proper Names of Bibliographical and Historical Texts: An Artificial Intelligence Approach, Presented at SHARP 2014 Religion of the Book Conference
- Dielectric Spectroscopy of Aqueous TRIS Buffer Solutions at Microwave Frequencies, Presented in Iranian Conference on BioElectromagnetic 2013 (ICBEM)
- The Maytham Project: Toward a Collaborative Expert System in History, Accepted (and self-declined) in the 2015 Global Digital Humanities Conference
- From Diwan to Facebook: Analyzing Persian Poems in Social Networks, Accepted (and self-declined) in the 2015 Global Digital Humanities Conference

Languages and Standardized Tests

- English
  - TOEFL iBT Overall Score: 103/120
    - Reading: 25/30
    - Listening: 29/30
    - Speaking: 23/30
    - Writing: 26/30
  - GRE Revised General Test:
    - Verbal Reasoning: 143/170
    - Quantitative Reasoning: 166/170
    - Analytical Writing: 3.5/6
- German
  - Studied up to the Level B1
- Arabic
  - Proficient in Classical Arabic
  - Limited Proficiency in Modern Spoken Arabic

Volunteer Experience

- Student Member of Executive and Journalism Editorial Board at ICEE 2012

References

- Jalil Rashed-Mohassel Professor, School of Electrical & Computer Eng., University of Tehran
- Zeinab Sanaee Assistant Professor, School of Electrical & Computer Eng., University of Tehran
- Reza Faraji-Dana Professor, School of Electrical & Computer Eng., University of Tehran
- Mehrdad Saviz Post-Doctoral Researcher, School of Electrical & Computer Eng., University of Tehran
- Mohammad Neshat Assistant Professor, School of Electrical & Computer Eng., University of Tehran
- Babak Nadjar Araabi Associate Professor, School of Electrical & Computer Eng., University of Tehran
- Babak Rahimi Associate Professor, School of Literature, University of California at San Diego