

# Rouzbeh Haghghi

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## EDUCATION

**M.Sc.** Student in Electrical Engineering-Power Systems-Electrical Energy Planning and Management, Amirkabir University of Technology (Tehran Polytechnic), Iran.

(Sep. 2019 – Dec. 2022)

Ranked: [#477 in QS Global World Ranking](#),

[#123 in Engineering and #204 in Electrical Engineering in U.S.News & WORLD REPORT](#)

[Subject Rankings](#).

**Thesis Title:** Short-Term or medium-term prediction of effective parameters (wind/radiance/load/battery) to control a hybrid system consisting of Photovoltaic Panels/ Wind Turbines/ Load/ Battery and determining the prospect of the optimal forecast.

**Supervisor:** Dr. Gholam Hossein Riahy Dehkordi

**B.S.** in Electrical Engineering, K.N.Toosi University of Technology, Tehran, Iran.

(Sep. 2014 – Sep. 2018)

**Thesis Title:** Reconfiguration of Distribution Network for Loss Reduction.

**Supervisor:** Dr. Alireza Fereidunian

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## RESEARCH INTERESTS

- Power System
  - Smart Grid
  - Machine Learning and Deep Learning
  - Reinforcement Learning
  - Energy Management
  - Renewable Energy Technologies
  - Power System's Reliability
  - Optimization
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## LANGUAGES

**Persian:** Native

**English:** Fluent, IELTS Academic

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## PUBLICATIONS

- "Generation Expansion Planning Using Game Theory Approach to Reduce Carbon Emission: A Case Study of Iran" paper which is published by the Journal of Computers & Industrial Engineering (with **7.9** of impact factor / SJR:Q1). \_\_\_\_ 2021  
**Rouzbeh Haghghi**, Hossein Yektamoghadam, Majid Dehghani, Amirhossein Nikoofard  
<https://doi.org/10.1016/j.cie.2021.107713>
- "A Game Theory Approach using TLBO algorithm for Generation Expansion Planning by applying carbon curtailment policy" paper which is published by the journal of Energies (with **3.2** of impact factor / SJR:Q2). \_\_\_\_ 2022

Seyed Hamed Jalalzar, Hossein Yektamoghadam, **Rouzbeh Haghighi**, Majid Dehghani, Amirhossein Nikoofard, Mahdi Khosravy, and Tomonobu Senjyu  
<https://doi.org/10.3390/en15031172>

- “Cloud Energy Storage Investment by Collaboration of Microgrids for Profit and Reliability Enhancement Considering a TSO-DSO yearly Reward” paper which is published by IEEE Access (with **3.9** of impact factor / SJR:Q1). \_\_\_\_ 2023

**Rouzbeh Haghighi**, Seyed Hamed Jalalzar, Mohammad Reza Salehizadeh, Hassan Haes Alhelou, Pierluigi Siano.

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- “Stochastic Infrastructure Damage Evaluation Method for Determining Imposed Damage in a Distribution System” paper in pre-submission. \_\_\_\_ 2022

Abbas Shahbazian, Alireza Fereidunian, Saeed D. Manshadi, **Rouzbeh Haghighi**

- “Impact of Congestion on Optimal Sizing of DG Resources in an Active Distribution Network Optimized by TLBO Algorithm” paper which is published at the 26th Electrical Power Distribution Conference, May 11-12, 2022, Tehran, Iran. \_\_\_\_ 2022

Seyed Hamed Jalalzar, **Rouzbeh Haghighi**, Mohammad Reza Salehizadeh

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## TEACHING EXPERIENCE

- As an assistant professor at the Technical and Vocational University of Guilan Province from September 2020 up to present.

**Courses:** Power Electronics, Application of drawing software in electricity system’s designing

- As a teacher in IEEE KNTU students’ branch, held and taught a workshop on Artificial Neural Networks (ANN).
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## INDUSTRIAL PROJECTS

- Preparing industrial research proposals for regional power companies in Iran, under Dr. Alireza Fereidunian’s supervision, with the subject of:

1. “Estimation of the load duration curves for the whole country and regional electric power companies”.
  2. “Calculation of the “value of loss load” and estimation of “customer damage function” by sectors in types of demand”.
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## ACADEMIC PROJECTS

- Working on reinforcement learning approaches for a new research on the electricity market which is a communal project with my university professors.
- Prepare reference energy system (RES) for future based on a 30-year forecast by ANN + Examine various scenarios based on arbitrary DSM and SSM technologies on the case study of the European Union.
- Technical and economic analysis of Manjil wind power plant
- The optimal strategy for comparing renewable and non-renewable energy using game theory and optimization algorithms as a project of Economy & Energy Management course.

- A Particle Swarm Optimization MPPT Algorithm for Photovoltaic System under Partial Shading has been simulated and analyzed as a Solar PV systems design's project
  - "Wind-Solar effective use in the distribution system" paper has been simulated and analyzed in Distributed Generation course.
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## SKILLS

- **Programming Languages:** Python(advanced), Matlab (advanced), GAMS (beginner)
  - **Engineering Softwares:** Matlab and Simulink, Pspice, AutoCAD, Altium designer (Printed Circuit Board (PCB) Design)
  - **Type Setting:** Prezi, Microsoft office, Apple iWork.
  - PLC programming (Programmable Logic Controllers which have considerably high rate use in both industrial and educational applications): Siemens Simatic Manager Step 7, Logo Design
  - **Group work**, since I have worked as a team in the smart grid group at K.N.Toosi University of Technology. I'm very sociable and also considerate and responsible in team works.
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## SELECTED COURSES

### Graduate

- Energy Storage, GPA: 20/20 (A+)
- Power System Reliability, GPA: 17/20 (A)
- Renewable Energy Resources, GPA: 18/20 (A+)
- Planning and Management of Energy Systems, GPA: 17.5/20 (A)
- Economy & Energy Management, GPA: 18/20 (A+)

### Undergraduate

- Optimization, GPA: 18/20 (A+)
  - Electricity Energy Generation, GPA: 18.1/20 (A+)
  - Economic in Engineering, GPA: 16/20 (A)
  - Thesis, GPA: 18/20 (A+)
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## CERTIFICATES AND VOLUNTARY WORKS

- Participated in "the 25th Iranian Conference on Electrical Engineering (ICEEE2017)" as a cooperator with the executive committee, held at K.N.Toosi University of Technology, Tehran, Iran from 2<sup>th</sup> to 4<sup>th</sup> May 2017.
- The main member of the executive committee of the 12th student seminar of the smart grid at K.N.Toosi University of Technology, Tehran, Iran in January 2018.
- Certificate of attendance at 18-hour workshop on ARM microcontroller held by IEEE student branch on Nov. 31 - Dec. 12, 2016.
- Certificate of attendance at 10-hour workshop on Altium Designer held by IEEE student branch on Nov. 9-23, 2016.
- Volunteer teacher of the students for the entrance national university exam from January 2015 to June 2016.

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## HOBBIES

- Camping
- Driving
- Playing football
- Bodybuilding
- Listening to music

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## REFERENCES

- **Dr. Alireza Fereidunian** (my B.S. supervisor). Assistant Professor, Department of Electrical Engineering, K.N.Toosi University of Technology, Tehran, Iran.  
**Email:** [fereidunian@eetd.kntu.ac.ir](mailto:fereidunian@eetd.kntu.ac.ir)
- **Dr. Amirhossein Nikoofard**. Assistant Professor, K.N.Toosi University of Technology, Tehran, Iran.  
**Email:** [a.nikoofard@kntu.ac.ir](mailto:a.nikoofard@kntu.ac.ir)
- **Dr. Mohammad Reza Salehizadeh**. Assistant Professor, Marvdasht Branch, Islamic Azad University, Marvdasht, Iran.  
**Email:** [salehizadeh@miau.ac.ir](mailto:salehizadeh@miau.ac.ir)

- *References can be arranged on request*