

MohammadHosein Saeedinia (Mohammad)

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WORK EXPERIENCE

Research and development engineer in the field of electrical machine

Electrogen [05/2019 – 03/2022]

City: Tehran

Country: Iran

- Responsible for design, development, modification, and evaluation of electrical machines.
- Revise current products in order to enhance efficiency and reduce their final cost.
- New products prototype project manager.
- Engineering Content and create technical documents in the related fields.

Electrical machines department research engineer

Niroy Research Institutet [01/11/2017 – 01/09/2018]

City: Tehran

Country: Iran

- Researcher in the field of flywheel energy storage systems.
- Flywheel energy storage system linear modeling, simulation, optimization.
- Propose an integrated model of the flywheel and the connected power grid.
- Flywheel parameters sensitivity analysis and propose a flywheel RSM based system model.

Electronics engineering expert

Rayan sazeh javid [01/01/2013 – 01/05/2017]

City: Tehran

Country: Iran

- Responsible for mining machines' electronic board design, repair, and prototyping.

Honorary Work

Journal of emerging and selected topics in power electronics

- Peer reviewer

Honorary Work

Iran National Standard Organization

City: Tehran

Country: Iran

- Member of technical commission of "Low-Voltage switchgear and controlgear" standard.
- Member of technical commission of "Specifications for particular types of winding wires" standard.

EDUCATION AND TRAINING

Doctor of Philosophy

University of Quebec in Outaouais [01/05/2022 – Current]

Address: (Canada)

<https://uqo.ca/>

Field(s) of study: Information science and Technology

Master of science

Shahid Rajaee University [21/09/2015 – 04/03/2018]

Address: Tehran (Iran)

<https://www.sru.ac.ir/en/>

Field(s) of study: Power Electronics and Electrical Machines

Thesis: Predictive Control of a Three-Phase AFE Rectifier based on Virtual Flux and Extended PQ Theory

Bachelor of science

Semnan University [22/09/2009 – 25/08/2014]

Address: Semnan (Iran)

<https://english.semnan.ac.ir/>

Field(s) of study: Power Engineering

Thesis: Design, Simulation and Experimental study of Over current Relay

PUBLICATIONS

H. Azizimoghaddam, M. H. Saedinia, S. Mohammadian, M. S. Mahdavi, G. B. Gharehpetian, "Integrated Modeling of Power Network and Connected Flywheel Energy Storage System for Optimal Power and Energy Rating of Flywheel," *IEEE Trans. Energy Convers*, Early Access, Nov. 2020.

<https://ieeexplore.ieee.org/abstract/document/9258391>

DOI:10.1109/TEC.2020.3037739

M. Mehreganfar, M. H. Saedinia, S. A. Davari, C. Garcia, and J. Rodriguez, "Sensorless predictive control of AFE rectifier with robust adaptive inductance estimation," *IEEE Trans Ind. Informat.*, vol. 15, no. 6, pp. 3420–3431, Jun. 2019.

<https://ieeexplore.ieee.org/abstract/document/8519329>

DOI: 10.1109/TII.2018.2879060

M. H. Saedinia, M. Mehreganfar, S. A. Davari, "AFE Rectifier Control Based on Virtual Flux Direct Power Control and Power Ripple Elimination Under Unbalanced Network Condition," *Tabriz Journal of Electrical Engineering*, vol. 49, no. 4, pp. 1697-1710, 2020.

https://tjee.tabrizu.ac.ir/article_10003_0.html

M. H. Saedinia, M. Mehreganfar, S. A. Davari and D. A. Khaburi, "AFE rectifier control based on virtual flux direct power control and active power ripple elimination under unbalanced network condition," 2018 9th Annual Power Electronics, Drives Systems and Technologies Conference (PEDSTC), Tehran, 2018, pp. 253-258.

<https://ieeexplore.ieee.org/abstract/document/8343805>

DOI: 10.1109/PEDSTC.2018.8343805

M. Mehreganfar, M. H. Saedinia, S. A. Davari and D. A. Khaburi, "Direct Power Control of AFE Rectifier by Line Voltage Sensorless Predictive Technique and MRAS Inductance Estimator," 2018 9th Annual Power Electronics, Drives Systems and Technologies Conference (PEDSTC), Tehran, 2018.

<https://ieeexplore.ieee.org/abstract/document/8343804>

DOI: 10.1109/PEDSTC.2018.8343804

M. H. Saeedinia and S. A. Davari, "Virtual flux model predictive direct power control (VF-MPDPC) of AFE rectifier with new current prediction method and negative sequence elimination," in Proc. IEEE Int. Symp. PRECEDE, Sep. 2017, pp. 113–118.

<https://ieeexplore.ieee.org/abstract/document/8071278>

DOI: 10.1109/PRECEDE.2017.8071278

A. Darjazini, M.Karimi, M.H. Saeedinia and M.Cheraghi, "Vibration and Noise Analysis of Squirrel Cage Induction Motors with Double Non-Skewed Rotor Structure", 2022 13th Annual Power Electronics, Drives Systems and Technologies Conference (PEDSTC), Tehran, 2022.

<https://ieeexplore.ieee.org/document/9767406>

DOI: 10.1109/PEDSTC53976.2022.9767406

PROJECTS

Three phase AFE Rectifier control

[09/2016 – 06/03/2018]

My Duties:

- Proposing New Control Methods
- Simulation of Achieved Methods
- Experimental Setup Design
- PCB Design
- Choosing System Hardware Components
- Micro-controller Programming
- Implementation
- Soldering

Flywheel energy storage system feasibility study

My Duties:

- Matlab-Simulink Modeling of the System.
- Sensitivity Analysis of the System.
- Achieving Novel Integrated Model of the Power Network and the Connected Flywheel.
- Data Analyzing.
- Optimizing of the Integrated System.

Prototype design and implementation of an automatic door control electronic board. (BLDC machine Drive)

My Duties:

- PCB Design
- Choosing System Hardware Components
- Micro-controller Programming
- Implementation
- Soldering

Prototype design and implementation of an industrial door control electronic board. (Induction machine Drive)

| My duties:

- PCB Design
- Choosing System Hardware Components
- Micro-controller Programming
- Implementation
- Soldering

Prototype design and implementation of a football ball thrower control electronic board and electrical system. (DC machine Drive).

My Duties:

- PCB Design
- Choosing System Hardware Components
- Micro-controller Programming
- Implementation
- Soldering

DIGITAL SKILLS

Electronic Design Software

Altium Designer; (Full proficiency, daily use) / CodeVisionAVR / Proteus and Multisim: Tools for Circuit designing / CubeMX (ST environnement) / Code Composer / Keil uVision

Electrical Machines Design Software

MotorCAD / ANSYS Maxwell

Analytical and Mathematical Packages

Mathematica (basic) / MATLAB&Simulink / Minitab 18

General Software packages

Microsoft office(WordExcel Powerpoint Outlook) / Adobe Photoshop 2018 / Basic AutoCad

Enterprise Resource Planning Software

ERP/SAP