Mohammad Pichan

Date of Birth: 6.7.1986

Marital Status: Single

Home Address: 147, Kalbasi alley, Dardasht Ave, Ebnesina Ave, Isfahan, Iran

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Objective:
- ✓ To obtain an Engineering Technical, Design or Research and Development position in Electrical Engineering.

Research Interests:
- Power Electronics
- Design, Modeling and Control of Power Converters
- Grid-Connected and Standalone Power Inverter Design for Renewable Energy System
- Digital Control of Power converters
- Renewable Energy Technologies

Education:
➢ **Amirkabir University of Technology,** **Tehran, Iran,** (Jan. 2014 – Present),
PhD student in Electrical Engineering.
PhD Thesis: "Design and Implementation of Deadbeat (DB) Controller for Four-leg Inverter Under Unbalanced Loads"
Supervisor: Dr. H. Rastegar,
Advisor: Dr. M. Monfared.

➢ **Amirkabir University of Technology,** **Tehran, Iran,** (Sep. 2010 –Oct. 2012)
M.Sc in Electrical Engineering, GPA: 18.36/20
M.Sc Thesis: "Improvement of Direct Power Control of Doubly Fed Induction Generator for Wind Energy Conversion Systems"
Supervisor: Dr. H. Rastegar,
Advisor: Dr. M. Monfared.

➢ **Isfahan University, Isfahan, Iran, (**Sep. 2005-Jun. 2010)
B.Sc in Electrical Engineering, GPA: 15.86/20
B.ScThesis:"Speed Control of DC Motor with Soft Switching Converter using AVR Microcontroller"
Supervisor: Dr. B. Mirzaeian,

➢ **Salamat High School, Isfahan, Iran,** (Sep. 1999-Sep. 2003)   .
Mathematics Diploma, GPA: 17.44/20

Publications:
➢ *Journal papers:*
1- M. Pichan, H. Rastegar, M. Monfared,"Two fuzzy-based direct power control strategies for doubly-fed induction generators in wind energy conversion systems"*Energy*, vol. 51, pp. 154-162, Mar 2013.
2- M. T. Jelodar, H. Rastegar, M. Pichan,"Induction generator voltage improvement using a new control strategy for turbo-expander driving systems" *International Journal of Electrical Power & Energy Systems*, vol. 64, pp. 1176-1184, 2015.
3- A. A. Ahmad, M. Pichan, A. Abrishamifar,"A new simple structure PLL for both single and three phase applications " *International Journal of Electrical Power & Energy Systems*, vol. 74, pp. 118-125, 2016.
4- M. Pichan, A. A. Ahmad, A. Abrishamifar, M. E. Jamarani,"A straightforward procedure to select passive elements in single phase PWM rectifiers with developed resonant current controller" *Electric Power Components and Systems*, vol. 44, no. 4, pp. 379-389, Mar 2016.

5- M. Pichan, H. Rastegar, M. Monfared,"Deadbeat control of the stand-alone four-leg inverter considering the effect of the neutral line inductor" *IEEE Transaction on Industrial Electronics*, ***Early Access***, 2016.

6- M. Pichan, H. Rastegar,"Sliding Mode Control of Four-Leg Inverter with Fixed Switching Frequency for Uninterruptible Power Supply Applications " *IEEE Transaction on Industrial Electronics*, ***Accept 0n 28 Feb 2017***.

7- M. Pichan, H. Rastegar,"High Performance and Robust Sliding Mode Control of Inverter-Based Four-Wire Autonomous Power Supply Units" *IEEE Transaction on Power Electronics*, ***Under Review***.

8- M. Pichan, H. Rastegar, M. Monfared"A new digital control of four-leg inverters in the natural reference frame for renewable energy based distributed generation" *IEEE Transaction on Industrial Informatics*, ***Under Review***.

9- M. Pichan, H. Rastegar,"A New Hybrid controller for Standalone Marine Renewable Energy-based Hybrid Power System with Unbalanced Loads" *IET Power Electronics*, ***Under Review***.

➢ *Conference papers:*

1- M. Pichan, A. Abrishamifar, M. Fazeli, M. Arefian, "A modified synchronous detection method with power factor control and suitable performance under non-ideal grid voltage applicable for three phase active power filter " *22th Iranian Conference on Electrical Engineering*, pp. 719-724, 20 May, 2014.

2- M. Shahrdad, A. Abrishamifar, M. Pichan, M. Fazeli, "A 10KVA FPGA-Based Active Power Filter for Battery Charger Applications" *4th Power Electronics, Drive Systems & Technologies Conference (PEDSTC*, pp. 338-343, 13Feb, 2013.

3- M. Pichan, H. Rastegar, M. Monfared, "Fuzzy-based Direct Power Control of Doubly Fed Induction Generator-based Wind Energy Conversion Systems" *2nd International Conference on Computer and Knowledge Engineering*, pp. 66-70, 18Oct, 2012.

4- M. Pichan, A. Mirzabayati, A. Abrishamifar, M. Fazeli, "Design procedure and experimental validation of a 30kVA DSP-Based three phase PWM rectifier " *7th Power Electronics, Drive Systems & Technologies Conference (PEDSTC)*, pp. 470-475, 16Feb, 2016.

5- M. Pichan, H. Rastegar, M. Monfared, "Comparison of RCMV-PWM methods for photovoltaic systems with deadtime effect consideration" *2nd Iranian Conference on Smart Grids*, pp. 1-7, 23 May, 2012.

Teaching Experience:

- Application of Computational Intelligence in Power Systems, Teaching Assistant, **Amirkabir University of Technology**, Assisted Dr. H. Rastegar, Spring 2015.
- Application of Computational Intelligence in Power Systems, Teaching Assistant, **Amirkabir University of Technology**, Assisted Dr. H. Rastegar, Spring 2016.
- Application of Computational Intelligence in Power Systems, Teaching Assistant, **Amirkabir University of Technology**, Assisted Dr. H. Rastegar, Spring 2017.
- Industrial Electronics Laboratory, Teacher, **Amirkabir University of Technology**, Spring 2015.
- Industrial Electronics Laboratory, Teacher, **Amirkabir University of Technology**, Fall2015.
- Industrial Electronics Laboratory, Teacher, **Amirkabir University of Technology**, Spring 2016.
- Industrial Electronics Laboratory, Teacher, **Amirkabir University of Technology**, Fall2016.

Selected Academic Projects:

- Design and Simulation of a **30 KW Three-Phase Regenerative load with 12-Pulses Thyristor-Based Converter.** (JDEVS Company, Converter and Power Supplies Center, R&D Group)
- Designing and Implementation of a **10KVA FPGA-Based Active Power Filter for Battery Charger Applications.** (JDEVS Company, Converter and Power Supplies Center, R&D Group)
- Designing and Implementation of a **High Reliable DSP-Based Single Phase PWM Battery Charger.** (JDEVS Company, Converter and Power Supplies Center, R&D Group)
- Designing and Implementation of a **15 KVA Three-Phase Regenerative load with Grid Connected Converter.** (JDEVS Company, Converter and Power Supplies Center, R&D Group)

- Designing and Implementation of a **75 KVA Three-Phase IGBT-Based Rectifier for UPS Applications with DSP-Based Digital control System.** (JDEVS Company, Converter and Power Supplies Center, R&D Group)
- Designing and Implementation of a **5 KVA Three-Phase Four-leg Inverter for Stand-alone Renewable Energy-Based Applications.** (JDEVS Company, Converter and Power Supplies Center, R&D Group)
- Designing and Simulation of a **Direct Power Control of Grid connected Three Phase Inverter.** (Power Quality course project)
- Designing and Simulation of a **Three Phase Transformerless PV Inverter.** (Power Electronics I course project)
- Designing and Simulation of a **Three Phase 15kW PV Inverter with Two Independent MPPT Tracking System.** (JDEVS Company, Converter and Power Supplies Center, R&D Group)

Research Experience:
- Researcher, Niroo Research Institute, May. 2011- Sep. 2011.
- Researcher, Department of Electrical Converters and Power Systems, Iranian Research Institute for Electrical Engineering (IRIEE), Tehran, Iran, Jan. 2014- Jan. 2016.

Honors:
- Ranked Among Top 10 Percent Isfahan University B.Sc Graduates (GPA: 15.84/20), Jun. 2010
- Ranked Among Top One Percent in M.Sc. National Universities Entrance Exam(Konkour), (Electrical Engineering), Jul. 2010

Software Familiarity:

- **Professional Application:** PSIM, Altium Designer, Code Composer Studio (CCS), ISE.
- **Programming Language:** MATLAB Technical Programming, C, C++.
- **Applications:** Microsoft Office, Windows Platforms and other CommonApplications.

Language Skills:

- Persian (Native), English (Proficient).
- TOEFL Score: N.A

Extracurricular Activities:

- Playing Football, and Futsal, Swimming, Watching Films, Reading (Literatureand Novels), Listening to Music.

References:

- Hasan Rastegar (rastegar@aut.ac.ir) (+98-21)64543346
Associated Professor, Amirkabir University of Technology,
Electrical and Computer Engineering Department

- Mohammad Monfared (m.monfared@um.ac.ir) (+98-51) 38806073
Associated Professor, Ferdowsi University of Mashhad
Electrical and Computer Engineering Department