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## EDUCATION

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- **University of Cincinnati, Cincinnati, OH, USA.**
  - PhD in Mechanical Engineering  
Aug. 2017 - Present  
**Supervisor:** Professor Jay Lee  
  
**Specialty:** Prognostics and Health Management, Industrial Big data
- **Iran University of Science and Technology, Tehran, Iran**
  - Master of Science in Mechanical Engineering  
Sep 2012 – Nov 2014  
With a Minor in advanced Control Systems (Digital Control Lab)  
  
**Supervisor:** Professor Amir H. D. Markazi  
  
**Thesis Title:** Experimental and analytical Investigation to develop a new control method for time-delay systems  
  
**Seminar Title:** stability, robustness, and control of time-delay systems
- **Yazd University, Yazd, Iran**
  - Bachelor of Science in Mechanical Engineering  
Sep 2008 – Jun 2012  
**Supervisor:** Professor S. Mohammad Bozorg  
  
**Thesis Title:** Lateral movement control of high-speed railroad trains

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## PROFESSIONAL EXPERIENCES

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- Prognostic and health assessment of CNC machines; Mazak Corporation (Sep. 2017 - Present)
- Prognostic and health assessment of wafer Chemical-Mechanical Planarization (CMP) process; PHM Data Challenge 2016 (Oct. 2017 - Dec. 2017)
- Prognostic and health assessment of Hard Drives; Huawei Technologies Co (Sep. 2017 - Dec. 2017)
- Developing IOS App for remotely monitoring assets and infrastructures; Prognostic and health management based on Cyber Physical System structure (known as 5C), (Aug. 2017 - Present)
- Design, prototyping, and testing of Haptic Interfaces for visually impaired people (Nov 2014- Aug. 2017)
- Developing a control method for time-delay systems (Sep 2012 – Nov 2014)
- Developing a method to evaluate fatigue life of mechanical components (2010 –2012)
- Design, prototyping, and testing of a rotary internal combustion engine (2009 –2013)
- Design, prototyping, and testing of a Hybrid Car (2009 –2010)

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## COMPUTER SKILLS

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- Computer Languages: C++, Maple, Matlab, Python, Swift
- Modeling, Simulation and Other Technical Software: CATIA (Modeling, Assembly, Simulation), Matlab (Simulink, M-file coding), Solidworks, Swift (IOS app development)
- General Computer Skills: LaTeX, MS Excel, MS Power Point, MS Word, Linux

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## HONORS AND AWARDS

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- **Ranked first at Khwarizmi Invention Festival - Feb 2016.**
- Full Financial Aid Award- to Remarkable Inventions- From Iranian National Science Foundation, Jan 2015
- Ranked in the top 2% of the MSc Degree Participants in the National Entrance Exam, Mar 2012
- Selected Inventor of the *8th* Regional Inventions Festival, Yazd, Iran, Jan 2012
- Ranked in the top 40 students in the National Physics Olympiads, May 2007

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## SELECTED PUBLICATIONS

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- **Journal Papers**
  - AZAMFAR, M., & MARKAZI, A. H. (2016). Simple Formulae for Control of Industrial Time Delay Systems. Latin American Journal of Solids and Structures, an ABCM Journal, 13
  - Azamfar, M., & Moshrefifar, M. (2014). Moshrefifar and Azamfar method, a new cycle counting method for evaluating fatigue life. International Journal of Fatigue, 69, 2-15
- **Conference Papers**
  - Azamfar, M., Amiri, A., & Olilo, D. A. (2014, October). Development of the tuning formula for unstable first order processes with time delay. In 2014 Second RSI/ISM International Conference on Robotics and Mechatronics (ICRoM)
  - Zakizadeh, M., Bozorg S. M., Azamfar, M., & Jalili M. M. (2013, May). Lateral movement control in a railroad vehicle. In 2013 Third International Conference on Recent Advances in Railway Engineering (ICRARE), [http://www.civilica.com/Paper-ICRARE03-ICRARE03\\_121.html](http://www.civilica.com/Paper-ICRARE03-ICRARE03_121.html)
- **Inventions**
  - Azamfar, M. (2017). "Refreshable Braille Display", United States Patent Number: US20170193856 A1
  - Azamfar, M. (2017). " Device and methods for continuously refreshing a tactile display ", United States Patent Number: US20170287359A1
  - Azamfar, M, Moshrefifar, M. (2014). "The mouse designed for blind people".



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United States Patent and Trademark Office, Provisional patent, Application Number: 61/929,077

- Azamfar, M. (2014). "Valveless Rotating Multi-Cylinder-Internal Combustion Engine". United States Patent and Trademark Office, Provisional patent, Application Number: 61/990,731
- Azamfar, M. Moshrefifar, M. (2014). "Alternative Motion Mechanism". United States Patent and Trademark Office, Provisional patent, Application Number: 61/839,889
- Azamfar, M. Moshrefifar, M. (2014). "An efficient structure for electrodynamics machines". United States Patent and Trademark Office, Provisional patent, Application Number: 61/929,075
- Azamfar, M (2014). "Two internal combustion engines embedded in one block". United States Patent and Trademark Office, Provisional patent, Application Number: 61/926,462
- Azamfar, M. (2013). "Six stroke rotary internal combustion engine". United States Patent and Trademark Office, Provisional patent, Application Number: 61/878,647
- Azamfar, M. (2013). "Axial 4-stroke Internal Combustion Engine". United States Patent and Trademark Office, Provisional patent, Application Number: 61/926,986