Mohammad Shams

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Education

- **Ph.D. in Electrical and Computer Engineering** (2020 – Present)
  George Mason University, Fairfax, VA
- **M.S. in Biomedical Engineering** (2017 – 2021)
  The George Washington University, Washington, DC
- **M.S. in Mechanical Engineering** (2012 – 2015)
  Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran
- **B.S. in Mechanical Engineering** (2008 – 2011)
  Purdue School of Engineering and Technology
  Indiana University – Purdue University Indianapolis (IUPUI), Indianapolis, IN
  University of Tehran – IUPUI Bachelor of Science Joint Program
- **B.S. in Mechanical Engineering** (2005 – 2008)
  University of Tehran, Tehran, Iran

Certificate

- **Professional Certificate in Data Analytics** (2018 – 2019)
  The George Washington University, Arlington, VA

Skills & Abilities

Knowledge	Machine Learning, Deep Learning, Data and Signal Processing, Pattern Recognition, Neural Networks
Programming Language	Python, MATLAB, C++, Java
Frameworks	PyTorch, Tensorflow, Keras, Scikit-learn, Apache Hadoop
Databases & Visualization	MySQL, MongoDB, HTML/CSS, JavaScript

Inventions

- Ali Gerami Matin; **Mohammad Shams**. "DotCrux, New generation of road survey tools," U.S. Provisional Pat. Ser. No. 63/087,606, 10/13/2020
- Ali Gerami Matin; **Mohammad Shams**. "DotLab, Cloud-based web platform data analyzer," U.S. Provisional Pat. Ser. No. 63/138,527, 01/18/2021

Teaching Experiences

- **Graduate Teaching Assistant**
  Department of Electrical and Computer Engineering, George Mason University
  - Electric Circuit Analysis II (Spring 2020, Fall 2020, Summer 2021, Spring 2022)
  - Electric Circuit Analysis I (Spring 2021)
  - Introduction to Random Processes in ECE (Fall 2021)
- **Teaching Assistant**
  Department of Mechanical and Energy Engineering, Purdue School of Engineering and Technology, IUPUI
  - Fluid Mechanics (Spring 2010)
  - MATLAB Programming (Spring 2009)

Publications

- Ebrahimzadeh, E., Foroutan, A., **Shams, M.**, Baradaran, R., Rajabion, L., Joulani, M., & Fayaz, F. (2019). An optimal strategy for prediction of sudden cardiac death through a pioneering feature-selection approach from HRV signal. *Computer Methods and Programs in Biomedicine,* 169, 19-36.
- Ebrahimzadeh, E., **Shams, M.**, Fayaz, F., Rajabion, L., Mirbagheri, M., Araabi, B. N., & Soltanian-Zadeh, H. (2019). Quantitative determination of concordance in localizing epileptic focus by component-based EEG-fMRI. *Computer Methods and Programs in Biomedicine, 177*, 231-241.
- Ebrahimzadeh, E., **Shams, M.**, Rahimpour Jounghani, A., Fayaz, F., Mirbagheri, M., Hakimi, N., Hashemi Fesharaki, S. S., & Soltanian-Zadeh, H. (2019). Epilepsy Presurgical Evaluation of Patients with Complex Source Localization by a Novel Component-Based EEG-fMRI Approach. *Iranian Journal of Radiology,* 16 (Special Issue).
- Ebrahimzadeh, E., **Shams, M.**, Fayaz, F., Mirbagheri, M., Hakimi N., Rajabion, L., & Soltanian-Zadeh, H. (2020). Localizing confined epileptic foci in patients with an unclear focus or presumed multifocality by using component-based EEG-fMRI method. *Cognitive Neurodynamics, 15*(2), 207-222.
- Sadjadi, S. M., Ebrahimzadeh, E., **Shams, M.**, Seraji, M., & Soltanian-Zadeh, H. (2021). Localization of Epileptic Foci Based on Simultaneous EEG–fMRI Data. *Frontiers in Neurology*, *12*, 472.
- Ebrahimzadeh, E., **Shams, M.**, Seraji, M., Sadjadi, S. M., Rajabion, L., & Soltanian-Zadeh, H. (2021). Localizing Epileptic Foci Using Simultaneous EEG-fMRI Recording: Template Component Cross-Correlation. *Frontiers in neurology*, *12*, 695997.

Journal reviews

- Review Editor on the Editorial Board of Cognitive Neuroscience (specialty section of Frontiers in Human Neuroscience)
- Reviewer of IEEE Transactions on Neural Systems and Rehabilitation Engineering (1 Review)
- Reviewer of Computer Methods and Programs in Biomedicine (1 Review)
- Reviewer of Medical & Biological Engineering & Computing (1 Review)
- Reviewer of Informatics in Medicine Unlocked (1 Review)
- Reviewer of Medical Hypotheses (2 Reviews)

Honors & Awards

- The GW New Venture Competition (NVC) at The Goerge Washington University (2019)
  - Team Alldots, Fosun International Venture Prize
- Purdue School of Engineering and Technology at IUPUI
  - Hoosier Connection Scholarship (Fall 2008 to Fall 2010)
  - Transfer Award Scholarship (Fall 2008 to Fall 2010)
  - Student Dean's List (Spring 2009 - Spring 2010 - Fall 2010)
  - MURI Projects Award (Spring 2009)
  - Department of Mechanical Engineering, Best Senior Project (Fall 2010)

Other Experiences

- Mentor, George Hacks Medical Solutions Hackathon (2018)
  The George Washington University
- Certificate for the I-Corps Short Course (2019)
  Team Alldots, DC I-Corps sponsored by the National Science Foundation (NSF)
  The George Washington University