

Sajad Jazayeri

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HIGHLIGHTS

A highly skilled self-motivated geophysicist with a PhD in Geology, creative, innovative and independent thinker and multitasking team player with a strong background in **programming, signal processing, Geophysical data analysis, Modelling and Inversion**, quantitative interpretation, **Artificial Intelligence (AI) and Machine Learning (ML)**. I also have 5 years of industry experience.

CORE SKILLS

- **Management:** Solution-oriented, Independent, Time-delivery, Decisive, Disciplined, Structured, Objective prioritizing
- **Geophysics:** Exploration Seismology, Electromagnetics (EM), Ground Penetrating Radar (GPR), gravity, Magnetic, Electrical Resistivity, GPS
- **Modelling:** 2D and 3D modelling, Inversion, Imaging, Velocity structure modelling, full-waveform inversion (FWI), attribute analysis
- **Software:** Geosoft Oasis Montaj, AarhusINV, Aarhus workbench, ArcGIS, PEST, SMT Kingdom Suite, Global Mapper, Hampson Russel
- **Programming:** MATLAB, Python, R, P5
- **Relevant courses:** Potential field data processing, Optimization, Project management, Statistical data mining, Basic programming in UNIX systems, Web design using HTML

EDUCATION

University of South Florida <i>PhD in Geophysics. GPA: 3.64/4, Thesis: FWI of high-frequency electromagnetic GPR data</i>	Tampa, FL May 2019
University of Tehran <i>MSc in Geophysics. GPA: 16.63/20, Thesis: 3D Geomagnetic data modelling</i>	Tehran, Iran August 2009
Razi University <i>BSc in Physics, solid state. GPA: 16.12/20</i>	Kermanshah, Iran August 2007

EMPLOYMENT AND RESEARCH EXPERIENCE

School of Geosciences, University of South Florida <i>Graduate Assistant</i>	Tampa, FL August 2014 - Present
<ul style="list-style-type: none">○ Developed modelling and inversion codes for time-series data. The established full-waveform inversion method improves subsurface model resolution by 78%.○ Developed a full-waveform inversion software package for surface GPR data○ Created a Sparse blind deconvolution for noise reduction and source wavelet optimization of electromagnetic and seismic signals○ Modelled and Inverted Airborne Electromagnetic data (AEM) for earth modelling○ Extensive data analysis, modelling and interpretation of EM, Electrical resistivity, Gravity, magnetic, LiDAR and GPS data○ Developed machine learning algorithms for automatic anomaly detection, using Power Spectral Density (PSD) and Dynamic Time Warping (DTW)	
Kian Rayan Co. <i>Research Geophysicist</i>	Tehran, Iran August 2012 - August 2014
<ul style="list-style-type: none">○ Established and developed new data processing codes and platforms resulting in average 60% decrease in data processing required-time○ Developed and restructured customer software training program and presented it to 12 different customer firms, resulting in a 85% increase in customer satisfaction levels○ Performed code performance evaluation and debugged the codes○ Presented research results in two expositions resulting in 18% costumer increase	

Geophysicist

September 2009 - August 2012

- Processed and modelled geophysical data (reflection and refraction Seismic, prestack and poststack seismic data, Magnetics, EM, GPR and MT)
- Interpreted and analyzed different data and prepared reports

Institute of Geophysics, University of Tehran

Tehran, Iran

Research Assistant

December 2008 - August 2009

- Potential field data modelling at Semnan basin (sponsored by the National Iranian Oil Company, NIOC)

Geological Survey and Mineral Exploration of Iran

Tehran, Iran

Intern

October 2008 - December 2008

- Processed the data of two actual projects under supervision of a senior geophysicist and prepared reports
- Communicated with principal geophysicists and team leaders to identify the instrumentation gaps and needs

SELECTED AWARDS AND ACHIEVEMENTS

- 2019 Richard A. Davis, Jr. (RAD) Endowed Fellowship in Geology Research, USF
- 2018 Dissertation completion Fellowship, USF Office of Graduate Studies
- 2017 Recognized as one of the top presented 39 papers in SEG annual meeting 2017, Houston, TX
- 2017 American Society of Civil Engineers (ASCE) Trent Dames and William Moore Fellowship
- 2015, 2016, 2018 USF School of Geosciences Tharp Research Fellowship, USF
- 2015 Sigma Xi GIAR (Grants-in-Aid of Research) award
- 2009 National Iranian Oil Company Graduate Research Fellowship

LEADERSHIP AND INVOLVEMENT

- Technical program committee member, SEG 2018 Annual meeting, Anaheim, CA
- Member of SEG near surface technical session leadership board and Media Leader (since 2017)
- President of the Iranian Student Association at USF (2017-2018)
- Co-organizer and primary chair for multiple sessions at AGU and SEG meetings since 2017
- Journal reviewer: *Geophysics*; *The Leading Edge*; *Near Surface Geophysics*; *Journal of Geophysics and Engineering*; *Journal of Environmental & Engineering Geophysics*, *Remote Sensing*; *Journal of Applied Geophysics*; *International Journal of Speleology*; *Arabian Journal of Geosciences*. Conference reviewer: *SEG annual meetings* (since 2017), *AGU* (since 2017), *IEEE* (2018)

SELECTED PUBLICATIONS

1. **S. Jazayeri**, N. Kazemi, S. Kruse. (2019). Sparse Blind Deconvolution of Ground Penetrating Radar data. In: *IEEE Transactions on Geoscience and Remote Sensing*. DOI: 10.1109/TGRS.2018.2886741
2. **S. Jazayeri**, A. Saghafi, S. Esmaeili, C.P. Tsokos. (2019). Online Object Detection using Dynamic Time Warping on Common-Offset Ground Penetrating Radar. In: *Expert Systems With Applications*, Elsevier, Vol. 122, pp. 102-107. DOI: 10.1016/j.eswa.2018.12.057
3. A. Saghafi, **S. Jazayeri**, S. Esmaeili, C. Tsokos. (2019). Power Spectral Density to Radar online Object Detection In: *Structural Control and Health Monitoring*, Elsevier, DOI: 10.1002/stc.2354.
4. **S. Jazayeri**, A. Klotzsche and S. Kruse. (2018). Improved resolution of pipes with full waveform inversion of common-offset GPR data using PEST. In: *Geophysics*, 83(4), H27-H41.
5. S., Kruse, **S. Jazayeri**. (2016). Evaluating potential benefits of improved understanding of uncertainties associated with airborne electromagnetic (AEM) data in Eastern Nebraska. 101 pp.

PATENTS

1. **S., Jazayeri**, S., Kruse. (2019). Precise Infrastructure Mapping Using Full-Waveform Inversion of Radar Signals. Filed Jun 27, 2018, United States Patent and Trademark Office, Non-Provisional patent number: 10,234,552 (Granted on Mar 19 2019).
2. A., Saghafi, **S. Jazayeri**, S., Esmaeili, C. Tsokos. (2019). Systems and Methods For Detecting Buried Objects. Filed Jun 28, 2018, United States Patent and Trademark Office, Non-Provisional patent number: 10,175,350 (Granted on Jan 8 2019)