

Education

- 2021–present **Postdoctoral Fellowship**, *University of Texas MD Anderson Cancer Research Center*, Houston, TX.
Computational Pathology
- 2015–2020 **PhD**, *San Diego State University/ Claremont Graduate University*, San Diego, CA.
Computational Statistics
- Title: *Novel Random Forest Methods and Algorithms for Autism Spectrum Disorders Research*
Advisors: Prof. Juanjuan Fan, Prof. Ralph-Axel Müller
- 2012–2014 **Master of Science**, *San Diego State University*, San Diego, CA.
Biostatistics
- 2011–2013 **Master of Science**, *Shiraz University*, Shiraz, Iran.
Mathematical Statistics
- 2002–2008 **Bachelor of Science**, *Shiraz Payam-e Noor University*, Shiraz, Iran.
Statistics

Teaching Experience

Soroosh College, Shiraz, Iran

- Aug 2008 **Statistics and Modeling**, *Statistics Instructor*.
May 2009
 - Prepared and delivered lectures to college students
 - Evaluated and graded class works, assignments, and papers

SDSU Department of Mathematics and Statistics, San Diego, CA

- Jan 2014 **Advanced Biostatistics Methods (Stat 680B)**, *Graduate Assistant*.
May 2014
 - Course focus: Advanced clinical experiments methods
 - Evaluated the exams
 - Recorded the grades
- Jan 2014 **Advanced Inferential Statistics (Stat 670B)**, *Graduate Assistant*.
May 2014
 - Course focus: Hypothesis testing and estimation
 - Prepared solution for the home works
 - Graded the home works
- Jan 2014 **Actuarial Modeling (Stat 678)**, *Graduate Assistant*.
May 2014
 - Course focus: Actuarial Models and Applications of Probability and Statistics to Insurance and other Financial Risks

& Jan 2012
May 2012
 - Graded the home works

Sep 2013 **Survival Analysis (Stat 678)**, *Graduate Assistant*.
Dec 2013
 - Course focus: Survival parametric and semi-parametric survival modeling
 - Prepared lecture presentation for the online classes

SDSU Office of Educational Opportunity Program, San Diego, CA

Sep 2012 **Statistics & Match Topics, Statistics & Math Tutor.**

- May 2014
- Tutored undergraduate courses including:
 - Elementary Business Statistics
 - Statistical Principles and Practices
 - Elementary Social Statistics
 - College Algebra
 - Topics in Mathematics
 - Calculus for Business Analysis & Calculus for the Life Science
 - Held a weekly office hour for teaching, topic related discussion, and helping students with home works

Research Experience

Computational Pathology, UT MDACC, Houston

Jan 2021 **Postdoctoral Fellow, PhD.**

- Present
- Lead computational pathology group that consists of two students
 - Write scientific manuscripts for undergoing projects
 - Gibbs Process analysis in Glioblastoma Multiforme

Brain Development Imaging Lab, SDSU Research Foundation, San Diego

Sep 2018 **Research Scholar, PhD Candidate.**

- Present
- Lead BDIL computational team that consists of four graduate students
 - Supervise ongoing computational projects including:
 - Design and implement Shiny app for the "*iterMatch*" R package
 - Detecting autism subtypes using non-negative matrix factorization on a multi-modal MRI dataset
 - Write scientific manuscripts for undergoing projects
 - Mixed-Effects Random Forest-based Classification Algorithms for the Clustered Data
 - An iterative multivariate matching package for sample with missing values: The "*iterMatch*" package for R
 - Resting state fMRI connectome differentiating autism from typical development
 - Subtyping ASD participants using multi-modal imaging dataset
 - Collaborated with other lab members for the statistical analysis in their paper including:
 - Underconnectivity Between Visual and Salience Networks and Links With Sensory Abnormalities in Autism Spectrum Disorder
 - The language network in autism: Atypical functional connectivity with default mode and visual regions
 - Classification of severe autism in fMRI using functional connectivity and conditional random forests

San Diego State University, San Diego, CA

Sep 2017 **Research Fellow, PhD Student.**

- Aug 2018
- Led the BDIL computational team consisted of two graduate students
 - Supervised ongoing computational projects including:
 - Diagnostic classification of ASD using a multimodal MRI technique
 - Potential subtyping using behavioral measurements
 - Classification of high severity ASD in fMRI using functional connectivity and conditional random forest
 - Subtyping ASD participants using multi-modal imaging
 - Whole brain connectome and age association using Multivariate Distance Matrix Regression (MDMR)
 - Wrote scientific manuscripts for undergoing projects
 - Matching Methods for Observational Data with Small Group Sizes
 - Classification of high severity ASD in fMRI using functional connectivity and conditional random forest
 - Functional connectivities are more informative than anatomical variables in diagnostic classification of autism
 - Collaborated with other lab members for the statistical analysis in their paper including:
 - Repetitive behaviors in autism are linked to imbalance of corticostriatal connectivity: a functional connectivity MRI study

Brain Development Imaging Lab, SDSU Research Foundation, San Diego

Aug 2015 **Research Scholar, PhD Student.**

- Aug 2017
- Initiated and lead BDIL computational team that consists of four bioinformatics graduate students, including:
 - Trained new members
 - Defined relevant machine learning projects for new students
 - Troubleshoot technical and statistical project issues
 - Documented research results
 - Developed group-wise and pair-wise Matching algorithms for observational data with small group sizes
 - Initiated computationally complex brain-behavior association project using multivariate distance matrix regression (MDMR) technique on resting-state fMRI data
 - Wrote scientific manuscripts for undergoing projects at computational team
 - Published paper Distributed intrinsic functional connectivity patterns predict diagnostic status in large autism cohort
 - Collaborated in statistical analysis with other ongoing projects in the lab including:
 - Network Organization is Globally Atypical in Autism: A Graph Theory Study of Intrinsic Functional Connectivity Network Community Structure in Autism

Feb 2014 **Research Assistant.**

- Aug 2015
- Established collaboration with other BDIL members to do research on resolving statistical challenge
 - Diagnostic classification of intrinsic functional connectivity highlights somatosensory, default mode, and visual regions in autism
 - Patterns of atypical functional connectivity and behavioral links in autism differ between default, salience, and executive networks

Department of Mathematics and Statistics, SDSU, San Diego

Feb 2013 **Masters Student.**

- Jan 2014
- How bird strike is changing from 1990 to 1999 in the United States and what are the factors that have affected the bird strike in California
 - Support Vector Machines modeling technique to discriminate breast cancer tumor type
 - Best predictive heart disease modeling by comparing CART, Bagging, Random Forest and Neural Network methods
 - House price prediction using Neural Network
 - Classification Regression Tree for predicting spammed emails

Business Administration Department, SDSU, San Diego

Sep 2013 **Research Assistant.**

- Dec 2013
- Process large volume of data for statistical modeling using R
 - Data management and manipulation techniques in R and SPSS
 - Compute and analyze data using multiple regression, clustered analysis, and classification and regression trees in R and SPSS
 - Compile data reports by creating charts to describe and interpret findings of analyses
 - Document results and findings

Department of Statistics, Shiraz University, Shiraz

Sep 2009 **Masters Student.**

- Dec 2011
- Thesis Topic: Bounds for how much influence an observation can have on some indices of descriptive statistics and linear regression
 - Distinguish outliers, extreme data and discordant data, and the way of treating them

Department of Statistics, Payam-e Noor University, Shiraz

Sep 2003 **Bachelor Student.**

- May 2008
- Factors affecting the Shiraz Payam-e Noor University students GPA
 - Finding the influential factors on healing the scaphoid fracture

Publication

1. **Jahedi A**, Kannan L, Agarwal T, Snuderl M, Zagzag D, Sulman E, Huse J, Kannan K. *Gibbs Process Determines Survival and Reveals Contact Inhibition Genes in Glioblastoma Multiforme*. Under Submission. 2021.
2. **Jahedi A**, Müller RA, Fan J. *Mixed effects random forests-based classification algorithms for the clustered data, an application to autism spectrum disorders*. Under Submission. 2020.
3. **Jahedi A**, Hillis T, Oslon M, Müller RA, Fan J. *An iterative multivariate matching package for sample with missing: The "iterMatch" package for R*. Under Submission. 2020.
4. **Jahedi A**, Fan J, Müller RA. *Matching methods for observational data with small group sizes, applied to an autism spectrum disorder study*. Under Submission. 2020.
5. M.A. Reiter, **A. Jahedi**, A.R.J. Fredo, and R-A. Müller, *Classification of high severity autism in fMRI using functional connectivity and conditional random forests*. Under submission, 2020
6. Keehn RJ, Pueschel EB, Gao Y, **Jahedi A**, Alemu K, Carper R, Fishman I, Müller RA. *Underconnectivity Between Visual and Salience Networks and Links With Sensory Abnormalities in Autism Spectrum Disorder*. *Journal of the American Academy of Child & Adolescent Psychiatry*. 2020 Feb 29.
7. Eill A, **Jahedi A**, Gao Y, Kohli JS, Fong CH, Solders S, Carper RA, Valafar F, Bailey BA, Müller RA. *Functional connectivities are more informative than anatomical variables in diagnostic classification of autism*. *Brain connectivity*. 2019 Oct 1;9(8):604-12.
8. Gao Y, Linke A, Jao Keehn RJ, Punyamurthula S, **Jahedi A**, Gates K, Fishman I, Müller RA. *The language network in autism: Atypical functional connectivity with default mode and visual regions*. *Autism Research*. 2019 Sep;12(9):1344-55.
9. Fredo AJ, **Jahedi A**, Reiter M, Müller RA. *Diagnostic classification of autism using resting-state fMRI data and conditional random forest*. 2018;12(2.76):6-41.
10. Keown CL, Datko MC, Chen CP, Maximo JO, **Jahedi A**, Müller RA. *Network organization is globally atypical in autism: a graph theory study of intrinsic functional connectivity*. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*. 2017 Jan 1;2(1):66-75.
11. Abbott AE, Linke AC, Nair A, **Jahedi A**, Alba LA, Keown CL, Fishman I, Müller RA. *Repetitive behaviors in autism are linked to imbalance of corticostriatal connectivity: a functional connectivity MRI study*. *Social cognitive and affective neuroscience*. 2018 Jan;13(1):32-42.
12. **Jahedi A**, Nasamran CA, Faires B, Fan J, Müller RA. *Distributed intrinsic functional connectivity patterns predict diagnostic status in large autism cohort*. *Brain connectivity*. 2017 Oct 1;7(8):515-25.
13. Abbott AE, Nair A, Keown CL, Datko M, **Jahedi A**, Fishman I, Müller RA. *Patterns of atypical functional connectivity and behavioral links in autism differ between default, salience, and executive networks*. *Cerebral cortex*. 2016 Oct 1;26(10):4034-45.
14. Falahpour M, Thompson WK, Abbott AE, **Jahedi A**, Mulvey ME, Datko M, Liu TT, Müller RA. *Underconnected, but not broken? Dynamic functional connectivity MRI shows underconnectivity in autism is linked to increased intra-individual variability across time*. *Brain connectivity*. 2016 Jun 1;6(5):403-14.
15. Chen CP, Keown CL, **Jahedi A**, Nair A, Pflieger ME, Bailey BA, Müller RA. *Diagnostic classification of intrinsic functional connectivity highlights somatosensory, default mode, and visual regions in autism*. *NeuroImage: Clinical*. 2015 Jan 1;8:238-45.
16. Barr JR, **Jahedi A**, Ehsani M. *Support vector machine: A tutorial with R*. *International Journal of Semantic Computing*. 2013 Jun;7(02):185-203.

[Google Scholar Citations](#)

Presentation and Talk

- Talk at Society of Neuroscience (SFN), "Functional connectivities are more informative than anatomical variables in diagnostic classification of autism," San Diego, Nov 5, 2018
- Talk at IEEE 40th International Conference on Engineering in Medicine and Biology, "Diagnostic classification of Autism using resting-state fMRI data and conditional random forest," Honolulu, Hawaii, July 17-21, 2018
- Poster presentation at Symposium on Data Science and Statistics doctoral forum, "Diagnostic prediction in autism using conditional random forest," San Diego, May 18th, 2018

- Poster presentation at SIAM International Conference on Data Mining, "Diagnostic prediction in autism using conditional random forest," San Diego, May 4, 2018
- Poster presentation at Applied Computational Sciences and Engineering & Computational Science Symposium (ACSSESS), "Resting-state fMRI connectome differentiating autism from typical development," San Diego, April 6, 2018
- Poster presentation at the Organization of Human Brain Mapping, "Language network connectivity indicates subgroups in children with autism spectrum disorders," Vancouver, Canada, June 25, 2017
- Poster presentation at Applied Computational Sciences and Engineering & Computational Science Symposium (ACSSESS), "Diagnostic prediction of autism in resting-state functional MRI using conditional random forest", San Diego, April 21, 2017
- Poster presentation at Society of Neuroscience (SFN), "Diagnostic prediction of autism in resting-state functional MRI using conditional random forest," San Diego, Nov 18, 2016
- Poster presentation at Society of Neuroscience (SFN), "Resting-state fMRI connectome differentiating autism from typical development," San Diego, Nov 18th, 2016
- Talk at Student Research Symposium (SRS), "Resting-state fMRI connectome differentiating autism from typical development," San Diego State University, Nov 21, 2016
- Poster presentation at 21st Joint Symposium Neural Computing, "Diagnostic Prediction in Autism using Conditional Random Forest of Resting-State Functional Connectivity", USC, Los Angeles, 2015
- Talk at 2015 Student Research Symposium (SRS), "Diagnostic Prediction in Autism using Conditional Random Forest of Resting-State Functional Connectivity," San Diego State University, March 6, 2015
- Poster presentation at Society of Neuroscience (SFN), "Diagnostic prediction in autism using random forest and resting-state functional connectivity" Washington DC., Nov 18, 2014

Honor & Award

- 2015–2020 **PhD Fellowship**, *Computational research Center (CSRC) at San Diego State University.*
- 2018–2019 **PhD Fellowship**, *National Institutes of Health (NIH).*
- 2017–2018 **Graduate Fellow**, *San Diego State University.*
- Feb 2018 **Travel Award**, *SIAM International Conference on Data Mining.*
- 2015–2017 **PhD Fellowship**, *National Institutes of Health (NIH).*
- Oct 2016 **Travel Award**, *Clinical and Cognitive Neuroscience.*
- March 2014 **Student Scholarship**, *Pharma SUG.*

Professional Experience

- May 2003 **Farasaan Industrial Co., Shiraz, Iran**, *Data and Knowledge Management Expert & Project*
- Aug 2008 **Evaluator at annual "Ayeneh" Congress.**
- Defined and design related projects for data and Knowledge Management infrastructure
 - Defined statistical matrices and corresponding KPI for each project
 - Managed project execution to ensure adherence to budget, schedule, and scope
 - Assigned duties, responsibilities, and authorities for project personnel
 - Hold scrum meetings to discuss performance, risks, and task plans, and monitored project milestones and deliverable
 - Prepared project status reports by collecting, analyzing, and summarizing information and trends using statistical methods
 - Participated in weekly meetings to improve the "Ayeneh" congress framework
 - Evaluated and interviewed workers performance based on defined congress framework
 - Prepared detailed reports on audit findings
 - Defined and designed statistical metrics for the congress performance

Professional Affiliation

- 2021 **Peer Reviewer**, *Brain Connectivity.*

- 2020 **Grant Reviewer**, *Auckland Medical Research Foundation*.
- 2020 **Peer Reviewer**, *eLife*.
- 2020 **Peer Reviewer**, *Autism research*.
- 2020 **Peer Reviewer**, *International Journal Of Scientific Reports*.
- 2020 **Peer Reviewer**, *Journal of Neuroscience Methods*.
- 2019–Present **Member**, *American Association for the Advancement of Science*.
- 2016–Present **Member**, *Society of Neuroscience (SFN)*.
- 2015–Present **Member**, *Society of Industrial and Applied Mathematics (SIAM)*.
- 2015–Present **Computational Team Lead**, *Brain Development Imaging Lab (BDIL)*.
- 2018–2019 **SIAM Officer**, *SDSU chapter*.
- 2018–2019 **Board Member**, *Association of Iranian American Professionals (AIAP)*.
- 2018–2019 **Volunteer judge**, *Greater San Diego Science Engineering Fair, San Diego, CA*.
- 2014–2014 **Executive Officer**, *San Diego chapter of American Statistical Association (ASA)*.
- 2014–2015 **Officer**, *SDSU SAS User Club*.
- 2005–2007 **President**, *Student Statistical Association, Shiraz Payam-e Noor University* .

Technical Skill

- **Programming:** R, Python, MATLAB, Minitab, S-plus, SAS, SPSS, SQL
- **Languages:** Fluent in English and Farsi, Familiar with German and Arabic, and Spanish
- **General Software:** Linux, Latex, Git, Windows, MS Office