Seyed Morteza Najibi

morteza.najibi@med.lu.se . +(46) 76 160 5054 . www.smnajibi.com

Statistician and Data Scientist Department of Clinical Science Lund University, Sweden



Sep. 2015 - Dec. 2021

BIOGRAPHICAL Date and place of birth: Apr. 1, 1986; Shiraz, Iran.

Marital Status: Married, two children.

Research

Statistical Machine Learning, Bayesian Data Analysis, Non-parametric Modeling and Functional

Interests Data Analysis

Work EXPRIENCES Statistician and Data Scientist May 2022 - present

Department of Clinical Science, Lund University, Lund, Sweden

> Associate Researcher Oct. 2021 - Apr. 2022

Department of Experimental Medical Science,

Lund University, Lund, Sweden

Postdoctoral Research Fellow July. 2019 - Oct. 2021

Center for Molecular Protein Science, Lund University, Lund, Sweden

Tenure-Track Assistant Professor Sep. 2017 - June 2019

Department of Statistics, College of Science,

Shiraz University, Shiraz, Iran

Tenure-Track Assistant Professor Aug. 2015 - Sep. 2017

Department of Statistics,

Faculty of Intelligent Systems and Data Science,

Persian Gulf University, Busher, Iran

Research Positions

Non-Resident Researcher of Neuro-Statistics Oct. 2016 - June 2020

Neuroimaging and Analysis Group (NIAG),

Tehran University of Medical Sciences, Tehran, Iran

Visting Research Scholar Mar. 2014 - Sep 2014

Department of Mathematics, Computer Sciences and Statistics,

Marquette University, WI, US

Administrative Head of Scientific Data Analysis Team (SDAT)

Positions Non-profit organization, Tehran, Iran.

May 2017 - Nov. 2017

Special Advisor to the President Advising in implementing and evaluation of strategic plan,

president department, Persian Gulf University, Iran.

Ph.D. in Statistics **EDUCATION**

Sep. 2010 - Aug. 2015

Department of Statistics,

Faculty of Mathematical sciences, Shahid Beheshti University, Tehran, Iran.

- Thesis Title: Performance Improvement of Protein Alignment using Directional Statistics
- Supervisor: Faghihi M. R.
- Advisors: Golalizadeh M. and Arab S.

Master in Statistics Sep. 2008 - Sep. 2010

Department of Statistics, Faculty of Mathematical Sciences,

Tarbiat Modares University, Tehran, Iran. Ranked 1st with GPA: 17.69/20.

- Thesis Title: On Protein Alignment via Statistical Shape Analysis
- Supervisor: Golalizadeh M.
- Advisor: Pezeshk H.

Last Update: May 2024

Bachelor in Statistics

Sep. 2004 - Sep. 2008

Sep. 2008

Department of Statistics, Faculty of Sciences,

Persian Gulf University, Boushehr, Iran. Ranked 1st with GPA: 17.72/20.

• Thesis Title: Multivariate Regression and It's Analysis by SAS Software

EXTERNAL GRANTS

- National Institute for Medical Research Development Mar. 2019- Jul. 2021 "Predicting Postoperative Language Outcome using fMRI/DTI, Following Evaluation of Functional Language Mapping compared to Cortical Stimulation Mapping"

 Role: Co-applicant, Statistician.

SELECTED PUBLICATIONS

- Najibi S. M., M. Maadooliat, L. Zhou, Huang J. Z. and Gao X. (2017). Protein Structure Classification and Loop Modeling Using Multiple Ramachandran Distributions, *Computational and Structural Biotechnology Journal*, 15, 243-254 DOI: 10.1016/j.csbj.2017.01.011.
- 2. M. Maadooliat, L. Zhou, **Najibi S. M.**, Huang J. Z. and Gao X. (2016). Collective Estimation of Multiple Bivariate Density Functions with Application to Angular-Sampling-Based Protein Structure Prediction, *Journal of American Statistical Association (JASA)*, **111** (513), 43-56, DOI: 10.1080/01621459.2015.1099535.
- 3. Haghbin, H., **Najibi, S. M.**, Mahmoudvand, R., Trinka, J., Maadooliat, M. (2021). Functional Singular Spectrum Analysis. *Stat*;10:e330. DOI: 10.1002/sta4.330.
- 4. Oliver, R. C., Potrzebowski, W., **Najibi S. M.**, Pedersen M. N., Arleth, L., Mahmoudi, N., Andre I. (2020), Assembly of Capsids from Hepatitis B Virus Core Protein Progresses through Highly Populated Intermediates in Presence and Absence of RNA, *ACS Nano*, 14, 8, 10226–10238, DOI: 10.1021/acsnano.0c03569

Honors & Awards

Scholarship Award of Iranian Ministry of Science and Technology

- Equivalent to 20,000\$ funding for visiting Marquette University, Milwaukee, US. 2014.
- Equivalent to 80,000\$ funding for Tenure-Track Assistant Professor at Persian Gulf University, Bushehr, Iran. 2015-2017.

Ranking Award in 13th National Scientific Olympiad for bachelor students

• Ranked 2^{nd} in six & seven geographic zone of Iran, Shiraz university, Iran
• Ranked 5^{nd} in final competition, Shahid Beheshti University, Tehran, Iran

Jun. 2008

Outstanding Graduate Award

- Ranked 1^{st} among B.Sc. students in statistics with GPA of 17.72/20, Persian Gulf University, Boushehr, Iran
- Ranked 1st among MSc. students in statistics
 with GPA of 17.69/20, Tarbiat Modares University, Tehran, Iran.

Computer Skills

- Programming languages: R, practice of Rcpp, tidyverse (plyr/dplyr, ggplot2), shiny and dashr libraries, STAN and NIMBLE, practice of deep learning with Keras.
- Python, Practices of NumPy, SciPy, TensorFlow, and PyMC3.
- \bullet C and C++.
- SQL
- Linux: Web Server management, Kernel Virtual Machine (KVM), and Container (Docker).
- High Performance computing management SLURM, Condor, and PBS.
- Other: practice of LATEX, Sweave, Markdown and Rmarkdown for reporting, Git and Github.

SUPERVISION EXPERIENCE

Ph.D. Students Co-Supervisor:

- Nooshin Akbari May 2019 present Research Subject: Bayesian modeling on high dimensional manifold.
- Elahe Saleh, Nov. 2017 March. 2021 Research Subject: Non-parametric modeling in fMRI data.

Ph.D. Students Advisor (Assistant Supervisor):

• Tayebeh Ebrahimi May. 2018 - Dec. 2020 Research Subject: Metabolic parameters in patients with seizure using MRI.

• Mehrnaz Haghi Feb. 2019 - Sep. 2020 Research Subject: The expression of autophagy genes in Alzheimer's disease

• Hossein Farrahi Dec. 2017 - Mar. 2020 Research Subject: fMRI-based cognitive behavior therapy in anxiety disorder.

Masoume Rostampour
 Agree of the state of the s

Master Students Co-Supervise:

• Maryam Shames Sep.2016 -Sep.2017

Research Subject: Outliers on singular spectrum analysis (SSA).

• Sakineh Ramezani Jan. 2018 - Feb. 2019

Research Subject: Trend in functional time series data.

SCIENTIFIC COMMUNITY SERVICES

Scientific Data Analysis Team, Tehran, Iran

• Member of scientific committee of event:

The First Event on Play with Real Data, Event homepage Dec. 2020- Jan. 2021

 Member of executive committee of Modern Methods in Insurance Pricing and Industrial Statistics Conference Bu-Ali Sina University, Hamedan, Iran, Conference homepage.
 Jan. 2017- Jan. 2021

Shiraz University, Department of Statistics, Iran

 Organizer and Lecturer at Development of Neuroimaging Symposium and Advanced fMRI Data Analysis Workshop, Website: sdat.ir/dns98
 Apr. 2019

• Organizer and Lecturer at the Development of Data Science and its Role in Creating Job Opportunities, Feb. 2019, Website sdat.ir/dss97 Feb. 2019

Tehran University of Medical Sciences, Neuroimaging Analysis Group

• Organizer and Lecturer at Advanced Statistical method in Cognitive Science Workshop Series, Movement 1, Website: sdat.ir/statcog96 Feb. 2018

Lecturer at Functional, Effective, and Structural Brain Connectivity Workshop,
 Lecturer at Neuroscience of addiction and functional MRI Workshop,
 July 2016

Persian Gulf University, Iran

Lecturer at the workshop of application of data mining in Biology,
Lecturer at workshop of basic of R for researchers,
Apr. 2016

Shahid Beheshti University, Iran

• Organizer and Lecturer at advanced statistical method in cognitive science workshop Series (9 days), Institute for Cognitive & Brain Sciences, Website: sdat.ir/fa/statcog95

June. 2016 - Feb. 2017

• Administrator of High Performance Computing (HPC) system, Faculty of Science, 2010-2013

Tarbiat Modares University, Tehran, Iran

• Member of executive committee of the Third conference and workshop on Mathematic Chemistry.

Feb. 2010

• Member of executive committee of 33th Mathematics Students Contest in Iran. Aug. 2009

Iranian Statistical Society, Tehran, Iran

Editor of website the official website of Iranian Statistical Society,
Member of committee for Webinar Series of ISS,
Sep. 2008 - Sep. 2012.
April 2020 - present.

• Member of committee for Webhar Series of 155,

Professional Memberships

• Permanent member of Iranian Statistical Society 2006 - present

• Member of American Statistical Association, 2014-present

• Regular member of International Statistical Institute (ISI) 2016 - present

TEACHING EXPERIENCE

Assistant Professor

Sep. 2017 - June 2019

Shiraz University, Shiraz, Iran

Teaching:

- Statistical Methods
- Basics of C++ Programming
- Computational Statistics with R
- Linear Algebra for Statistics
- Statistics and probability II for Geography
- Probability and Mathematics for Engineering sciences
- Advanced Statistical Computing Lab

Assistant Professor

Sep. 2015 - Aug. 2017

Persian Gulf University, Busher, Iran Teaching:

- Statistical computing with R
- Simulation methods
- Statistics and probability I and II
- Probability and Mathematics for Engineering sciences
- Introduction to Matrices and Linear Algebra

Lecturer Feb. 2010 - Feb. 2014

Shahid Beheshti University, Tehran, Iran

Teaching:

- Statistics and probability II for Computer Sciences students
- Basic of probability for Mathematics students
- Probability I for Mathematics students
- Probability II for Computer Sciences students
- Statistical software for Statistics students
- Probability and Mathematics for Engineering sciences students
- Descriptive Statistics for Psychology students

PEER-REVIEWED
JOURNAL
ARTICLES
(REVERSECHRONOLOGICAL
ORDER)

- 1. Kahn, R., Mossberg, M., Berthold, E., Schmidt, T., Najibi, S. M., Månsson, B., Król, P. (2024). Capillary leak syndrome was associated with more severe multisystem inflammatory syndrome in children during the COVID-19 pandemic. *Acta paediatrica (Oslo, Norway: 1992)*.
- 2. Shenavari, Z., Haghbin, H., Kharrati-Kopaei, M., **Najibi, S.M.** (2023). combinIT: A Combined Interaction Test for Unreplicated Two-Way Tables. R package.
- 3. Haghbin, H, Trinka, J., **Najibi, S.M.**, Maadooliat, M. (2023). Rfssa: Functional Singular Spectrum Analysis Package, *R Package* .
- 4. Schmidt T., Dahlberg A., Berthold E., Król P., Arve-Butler S., Rydén E., Najibi S.M., Mossberg A., Bengtsson A.A., Kahn F., Månsson B. and Kahn R. (2023). Synovial monocytes contribute to chronic inflammation in childhood-onset arthritis via IL-6/STAT signalling and cell-cell interactions. *Frontier in Immunology*. 14:1190018. DOI: 10.3389/fimmu.2023.1190018.
- 5. Arve-Butler S., Mossberg A., Kahn F., **Najibi S.M.**, Berthold E., Król P/, Månsson B., Kahn R. (2023). Identification of novel autoantigens as potential biomarkers in juvenile idiopathic arthritis associated uveitis. *Frontiers in Pediatrics*, DOI: 10.3389/fped.2022.1091308.
- 6. Mayeli, A, LaGoy, A., Donati, F. L., Kaskie, R. E., **Najibi, S. M.**, Fabio Ferrarelli (2021). Sleep abnormalities in Individuals at Clinical High Risk for Psychosis, *Journal of Psychiatric Research*, DOI: 10.1016/j.jpsychires.2021.03.006
- 7. Bhatti, F.A, Hamedani, G. G., **Najibi, S.M.**, Ahmad, M. (2021). On the Extended Chen Distribution: Development, Properties, Characterizations and Applications. *Annals of Data Science*, v. 8 (1), P. 159 180, DOI: 10.1007/s40745-019-00202-x
- 8. Haghbin, H., **Najibi, S. M.**, Mahmoudvand, R., Trinka, J., Maadooliat, M. (2021). Functional Singular Spectrum Analysis. *Stat*; 10:e330. DOI: 10.1002/sta4.330.
- 9. Naseri P., Alavi Majd H., Tabatabaee S. M., Khademi N., and **Najibi S. M.** (2021). Functional Brain Response to Emotional Musical Stimuli in Depression, Using INLA Approach for Approximate Bayesian Inference. *Basic and Clinical Neuroscience*, 12, 1, 95-104, DOI: 10.32598/bcn.9.10.480.

- Oliver, R. C., Potrzebowski, W., Najibi S. M., Pedersen M. N., Arleth, L., Mahmoudi, N., Andre I. (2020), Assembly of Capsids from Hepatitis B Virus Core Protein Progresses through Highly Populated Intermediates in Presence and Absence of RNA, ACS Nano, 14, 8, 10226–10238, DOI: 10.1021/acsnano.0c03569
- Haghi, M., Masoudi, R. and Najibi S. M. (2020). Distinctive alteration in the expression of autophagy genes in Drosophila models of amyloidopathy and tauopathy. *Upsala Journal of Medical Sciences*, 125:4, 265-273, DOI: 10.1080/03009734.2020.1785063
- Saleh, E., Najibi S. M., Oghabian M. A., Yasseri, M., Zera'ati H. (2020). Modeling Brain Functional Magnetic Resonance Imaging Data Using Collective Density Function Estimation Method Based on Directional Statistics for Determining Addiction Patterns. Archives of Pharmacy Practice, 11(S1):131-40.
- 13. Bhatti, F.A., Hamedan, G.G.i, **Najibi S. M.**, and Ahmad Munir (2020). Cubic rank transmuted modified Burr III distribution: Development, properties, characterization and application. *Journal of data science*, v. 18 (2), P. 299 318, DOI: 10.6339JDS.202004_18(2).0005
- Farrahi H, Gharraee B, Oghabian M A, Pirmoradi M R, Najibi S M, and Batouli, A.H. (2020). Psychometric Properties of the Persian Version of the Overall Anxiety Severity and Impairment Scale (OASIS), Iran J Psychiatry Behav Sci.; 14(4):e100674. doi: 10.5812/ijpbs.100674.
- 15. Alizadeh N, Yousof H.M., Jahanshahi S. M. A., **Najibi, S. M.**, and G. G. Hamedani (2020), The transmuted odd log-logistic-G family of distributions, *Journal of Statistics and Management Systems*, 1-27, DOI: 10.1080/09720510.2019.1685228.
- Bhatti F.A., Hamedani G. G., Najibi S. M., Ahmad M. (2019). On Modified Extended Exponential Power Life Testing Distribution: Development, Properties, Characterizations and Application, Annals of Data Science, 6 (3) 413-439, DOI: 10.1007/s40745-018-0167-y.
- 17. Hamedani, G.G., Rasekhi, **Najibi, S.M.**, M., Yousof, H.M., Alizadeh, M., (2019). Type II general exponential class of distributions, *Pakistan Journal of Statistics and Operation Research*, **15** (2), 503-523, DOI: 10.18187/pjsor.v15i2.1699
- Hamedani, G.G., Yousof, H.M., Rasekhi, M., Alizadeh, M., Najibi, S.M. (2018). Type I general exponential class of distributions, *Pakistan Journal of Statistics and Operation Research*, 14 (1), 39-55,
 DOI: 10.18187/pjsor.v14i1.2193
- Naseri P., Alavi Majd H., Najibi S. M., Tabatabaee S. M., Faghihzadeh E. (2018). Neural Processing of Food Stimuli in Self-Regulation Brain Regions using Bayesian General Linear Modeling Approach, *Middle East Journal of Family Medicine*, 16 (9), 29-35, DOI: 10.5742mewfm.2018.93494.
- Rostampour M., H. Hashemi, Najibi S.M. and Oghabian M. A. (2017). Detection of structural abnormalities of cortical and subcortical gray matter in patients with MRI-negative refractory epilepsy using neurite orientation dispersion and density imaging, *Physica Medica*, 48, 47-54, DOI: 10.1016/j.ejmp.2018.03.005.
- Najibi S. M., M. Maadooliat, L. Zhou, Huang J. Z. and Gao X. (2017). Protein Structure Classification and Loop Modeling Using Multiple Ramachandran Distributions, Computational and Structural Biotechnology Journal, 15, 243-254 DOI: 10.1016/j.csbj.2017.01.011.
- M. Maadooliat, L. Zhou, Najibi S. M., Huang J. Z. and Gao X. (2016). Collective Estimation
 of Multiple Bivariate Density Functions with Application to Angular-Sampling-Based Protein
 Structure Prediction, *Journal of American Statistical Association (JASA)*, 111 (513), 43-56,
 DOI: 10.1080/01621459.2015.1099535.
- 23. Najibi S. M., Faghihi M. R., Golalizadeh M., Arab S. (2015). Bayesian Alignment of Proteins Using Delaunay Tetrahedralization. *Journal of Applied Statistics*, **42** (5),1064-1079, DOI: 10.1080/02664763.2014.995605.
- 24. **Najibi S. M.**, Javadi M., Noorini N., Mousakazemi, N. and Hemmati M. (2012). Using Telephone in Surveys, *Iranian Journal of Official Statistics Studies*, **23** (2), 159–178, in Persian.
- 25. **Najibi S. M.**, Golalizadeh M. (2011). Statistical Analysis of directed wind angles. *Neda Journal of Iranian Statistics Society*, **8** (2), 40–49, in Persian.

26. Tazikeh N., **Najibi S. M.** (2010). Functions Family of "apply" in Splus: Simplicity and Speeding up the execution. *Neda Journal of Iranian Statistics Society*, **8** (1), 44–50, in Persian.

ARTICLES UNDER REVIEW

1. Haghi, M., Masoudi, R., Yousefi, R. and **Najibi S.M.** (2021). Thymoquinone ameliorates (modulates) the effect of Tau and Amyloid beta on Autophagy gene expression in Drosophila melanogaster models of amyloidopathy and tauopathy. Submitted.

REFEREED CONFERENCE PAPERS

- 1. **Najibi S.M.**, Andre, I., A Von Mises-Fisher Clustering Modeling for the Inference of Orientational Preferences of Protein Domains with Scattering Data, *Joint Statistical Meeting*, Seattle, Washington, MA, US, 2021, Virtual Conference.
- 2. **Najibi S. M.** The Roles of Statistics in Cognitive Data Science, Challenging Issue of Basic Sciences, Fasa University, Fasa, Iran, 2018.
- 3. **Najibi S. M.** Discovering Brain Parcellation Using Collective Density Estimation Approach, 7th Neurosience Cogress, Iran University of Medical Sciences, Tehran, Iran, 2018.
- 4. **Najibi S. M.** Application of Shape Analysis in protein Classification. 14th Iranian Statistics Conference, Shahrood University of Technology, Shahrood, Iran, 2018.
- 5. Najibi S. M., Batouli S.A.H. Strategies for Application of Directional Statistics in Probabilistic Machine Learning. *Modern Method in Insurance Pricing and Industrial Statistics*, Bu-Ali Sina University, Hamedan, Iran, 2017.
- 6. Saleh E., Zare-Sadeghi A., **Najibi S. M.**, Applications of Statistical Machine Learning in Neuroimaging. *Modern Method in Insurance Pricing and Industrial Statistics*, Bu-Ali Sina University, Hamedan, Iran, 2017.
- 7. Najibi S. M., Faghihi M. R., Golalizadeh M., Arab S., Maadooliat M., Bayesian Alignment of Proteins Using Delaunay Tetrahedralization. *Second International Conference on Mathematics and Statistics*, American University of Sharjah, Shajah, UAE, 2015.
- 8. Najibi S.M., Maadooliat M., Faghihi M.R., Nonparametric Joint Estimation of Multiple Bivariate Densities of Protein Backbone Angles Using Spherical Spline, Joint Statistical Meeting, Boston, MA, US, 2014.
- 9. **Najibi S.M.** and Golalizadeh M., Bayesian Matching in structural alignment of protein, 8th Seminar on Probability and Stochastic Processes, Rasht, Gilan, Iran, in Persian, 2011.
- 10. Golalizadeh M. and **Najibi S.M.**, On Matching in Structural Bioinformatics via Statistical Shape Analysis, *The 3rd conference and workshop on Mathematic Chemistry*, Tarbiat Modares University, Tehran, Iran, 2010.
- 11. **Najibi S.M.** and Golalizadeh M., Statistical Analysis of directed wind angles, 10th conference of Statistics, Tabriz university, Tabriz, in Persian, 2010.
- 12. **Najibi S.M.**, Mazarei H., Hosseinpouri M., Stochastic Processes on Spheres, 7th Seminar on Probability and Stochastic Processes, Isfahan University of Technology, Isfahan, appeared in conference proceeding, 103, in Persian, 2009.
- 13. **Najibi S.M.**, Tazykeh N. and Qytuly A., Framework, Environment and Scope in R and Splus, 4th Conference of Statistics, University of Payamenoor, Tehran, appeared in conference proceeding (extended abstract), pp.10-12, in Persian, 2009.

Talk & Presentations

- How to find our value as a statistician, Invited Talk, Statistic Day in Iran, Department of Statistics, Yazd University, Iran, October 2019.
- Necessities of Developing as an Elite Data Scientists Team, Invited talk, Department of Computer, Shiraz University, Iran, May 2019.
- Non-Parametric Joint Estimation of Neighbor-Dependent Ramachandran Distributions
 - MSCS Department Colloquium, Marquette U.; Milwaukee, WI, US, Sep 2014
 - IPM Institute for Research in Fundamental Sciences, Tehran, Iran, Oct. 2014
 - Monthly Seminar at Department of Statistics, Shahid Beheshti University, Tehran, Iran, Oct. 2014

- Statistical Bioinformatics via Statistical Shape Analysis, Journal Club Meeting, Apr. 2014, Marquette University, Milwaukee, WI, US.
- Directional Statistics in Bioinformatics, Weekly seminar, Jun. 2010, Tarbiat Modares University, Tehran, Iran
- Could Statistical Shape Analysis Play a Role in Bioinformatics?, joint work with Dr. Goalizadeh M., Monthly seminar, Feb.2010, IPM Institute for Research in Fundamental Sciences, Tehran, Iron

WORKSHOP ATTENDANCE

- Risk Management with Big Data and Applications in Industry Workshop by David Rios Insua in Modern Method in Insurance Pricing and Industrial Statistics conference, Bu-Ali Sina University, Hamedan, Iran, 4th Sep. 2017.
- IPM NUS Workshops on Bioinformatics and Computer Science, Apr. 2011,IPM, Tehran, Iran
- ullet The 1^{st} workshop in Phylogeny tree, Apr. 2010, IPM, Zirab, Mazandaran, Iran

LANGUAGE

• English: fluent; Swedish: basic; Persian: native;