Amin Shirazi

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Professional Summary

- Statistical consultant at the Consulting Group, Department of Statistics, Iowa State University
- Biostatistics graduate intern at Merck & Co, Summer 2020 and Summer 2021
- Biostatistics graduate intern at ClinChoice, Programming Division, Fall 2020 & Spring 2021
- 4+ years industry experience in data analysis in research and development department of 3 companies with successful collaboration with sales, marketing, customer service and logistic departments
- R package development contribution: gsDesign, gsDesign2, gsdmvn, simtrial, pkglite, r2rtf, PetFindr
- R shiny apps development: Merck Oncology Shiny (see this to have an idea of what the oncology shiny I developed looks like), Merck Programming System Tracking Dashboard (using plotly), Merck Adaptive two-in-one Design shiny, PetFindr shiny
- Former treasurer and Executive board member of Statistics in Community, a student-run organization

Technical and Advanced Computer Skills

- Working Knowledge: GitHub, Bitbucket, R, R Markdown, JMP, LATEX, SAS, Shiny, rJAGS, rStan
- Basic Knowledge: html, SPSS

Education

Iowa State University (ISU), Ames, IA   August 2017–Anticipated July 2022
Doctor of Philosophy, Ph.D., Statistics

Shahid Beheshti University (SBU), Tehran, Iran   September 2011–February 2014
Master of Science, MSc, Mathematical Statistics

Imam Khomeini International University (IKIU), Qazvin, Iran   September 2006–September 2010
Bachelor of Science, BSc, Statistics

Research Interests

- Multiple hypothesis testing, Model Assessment, Genomics and microbiome data analysis, Data Visualization, Monte Carlo (MCMC) methods, Bayesian Data Analysis, R Package Development, Shiny apps

Awards and Honors:

- Daniel H. Mowrey Graduate Consulting Awards, (Spring 2021), Iowa State University
- Teaching excellence award (Spring 2020), Iowa State University

Software Development

- Shiny apps:
  - Merck Oncology Survival Shiny app
  - Merck Programming System Tracking Dashboard (using plotly)
  - Merck Adaptive two-in-one Design shiny
  - PetFindr shiny
- Package Development:
  - pkglite: a tool, grammar, and standard to represent and exchange R package source code as text files
  - gsDesign2: non-proportional hazards and graphical multiplicity control with group sequential design
  - r2rtf: an R package to create production-ready tables and figures in RTF format
  - gsdmvn: simulation of fixed or group sequential design under non-proportional hazards
  - simtrial: this package provides some basic routines for simulating a clinical trial
  - gsDesign: the gsDesign package supports group sequential clinical trial design
  - PetFindr: an R interface for the petfinder.com API (V2)
- Other:
  - Merck Oncology Analysis package
  - Merck qualification package
  - Merck Adaptive two-in-one package

Work Experience

Statistical Consultant   January 2021-present
Consulting group, Department of Statistics, Iowa State University, Ames, Iowa

- Providing advice to researchers about their research designs, choosing statistical methods, interpreting statistical analysis results, use of statistical software to analyze data

Biostatistics Graduate Intern, Late Development Statistic Group   May 2021–August 2021
Merck & Co, North Wales, PA, USA
- Developer of **Merck & Co** internal packages: Oncology Survival Analysis package (mksurv), Qualification package (mkqualify), and Merck Adaptive two-in-one Design package
- Creator and developer of three shiny apps for Merck internal resources: Oncology survival analysis shiny (see this to have an idea of what the oncology shiny I developed looks like), Statistical programming managerial dashboard for project monitoring using **ggplotly**, and a shiny app for adaptive two-in-one studies (for oncology trials)

Biostatistics Graduate Intern, Biostatistics and Programming Division   September 2020–May 2021
ClinChoice, Washington, PA, USA
- Developed unit tests for Group Sequential Design packages
- Performed simulation studies for oncology clinical trials

Biostatistics Graduate Intern, Design Methodology Division   June 2020–September 2020
Merck & Co, North Wales, PA, USA
- Collaborated in package development at Merck & Co. in 3 packages: simtrial, gsDesign2 and gsdmvn
- Conducted simulation studies for fixed/group sequential designs under non-proportional hazard assumption
- Carried out research in design methodology for group sequential designs for time-to-event endpoint trials

Data Analyst, R&D Department   July 2015–July 2017
Koosha Setareh Iranian International Co, Tehran, Iran
- Benefited statistical skills to interpret market data in corporation with sales and marketing department
- Modelled generalized linear model to data from market research
- Generated creative business reports, tables, charts, and graphs for the logistic department

Data Analyst, R&D department   September 2014–June 2015
Iranian Shaygan Pars, Tehran, Iran
- Interpreted sales data applying statistical models as a teamwork with sales department
- Generated creative business reports, tables, charts, and graphs for the logistic department

Statistical Consultant and Data Analyst   May 2014–September 2014
Info Tech International Company, Tehran, Iran
- Conducted tests for survey data validation using statistical knowledge and analytical methods
- Consulted call center for designing, collecting and analysis of customer satisfaction survey

Teaching and Research Experience
Department of Statistics, Iowa State University   August 2017-December 2020
- Research Assistant, Genomics and microbiome data analysis, Analysis of gene expression data
- STAT 305, Engineering Statistics, ISU, Instructor, Fall 2020, Spring 2021
- STAT 305, Engineering Statistics, ISU, Teaching assistant, Summer 2019, Spring 2018
- STAT 588, Statistical Theory for Research, ISU, Co-instructor, Spring 2019
- STAT 330, Probability and Statistics for Computer Science, Teaching assistant, Fall 2018
- STAT 226, Introduction to Business Statistics, ISU, Teaching assistant, Fall 2017

Service and Leadership
Statistics in the Community, Former Treasurer and Executive Member   August 2019–present
STATCOM at Iowa State offers statistical advice and expertise free of charge to governmental and nonprofit groups in the local community

Statistics faculty committee - student representative   August 2019–May 2021
Department of Statistics, Iowa State University, Ames, Iowa
- Communicate relevant information from the student association to the faculty members

Iranian Students and Scholars' Association, Treasurer, ISU   August 2018–August 2019
- Event planner for 5 big events, as a teamwork, for the members of the association and non-Iranian people
- Organized the new year celebration event and hosted approximately 300 people
- Communicated with finance committee and senate of Iowa State University for funds to hold events

Professional Affiliations
- American Statistical Association (ASA), Institute of Mathematical Statistics (IMS)
- Iranian Statistical Society (ISS)