

Amin Shirazi

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Professional Summary

- Senior research statistician in the neuroscience clinical team at Abbvie
- Contribute to the design, analysis, and reporting of clinical trials and other scientific research studies at a pharmaceutical and biotechnology company.
- Assist with the development of protocols and statistical analysis plans for scientific investigations with details for programming implementation.
- Implement sound statistical methodology in scientific investigations and identified scientifically appropriate data collection instruments.
- Provide programming specifications for derived variables and analysis datasets, collaborated with Data Science in preparing for database lock, and performed statistical analyses as per the analysis plan
- Statistical data scientist and enthusiastic problem solver with 7+ years of both industrial and academic experience in data science and statistics
- 5+ years of industry experience in building advanced statistical and machine learning predictive models for big quantitative and qualitative data to leverage business insights
- 6+ years of experience in R and [Shiny apps](#), 3+ years of experience in SAS and Python
- Strong skills in various statistical techniques including design of experiments, linear mixed-effect models, sampling methods, modeling and simulation using MCMC and Bayesian approaches
- Proficient in machine learning algorithms including supervised and unsupervised, regression, clustering, and deep learning algorithms using R programming (caret, dplyr, tidyverse, ggplot2)
- Expert in writing and debugging reproducible R codes, and contributed to 6+ R library development and 4+ Shiny apps deployment
- 4+ years of experience with source code management tools and ticket management systems such as git, bitbucket, and Jira

Education

Iowa State University (ISU), Ames, IA Doctor of Philosophy, Ph.D., Statistics	August 2017–August 2022
Shahid Beheshti University (SBU), Tehran, Iran Master of Science, MSc, Mathematical Statistics	September 2011–February 2014
Imam Khomeini International University (IKIU), Qazvin, Iran Bachelor of Science, BSc, Statistics	September 2006–September 2010

Awards and Honors:

- [Daniel H. Mowrey Graduate Consulting Awards](#), Awarded in recognition of outstanding statistical consulting
- Teaching excellence award, Spring 2020, Iowa State University, Awarded in recognition of outstanding teaching

Work Experience

Senior Research Statistician, Neuroscience Clinical Trial Abbvie , Data and Statistical Sciences, Lake County, Chicago, IL	August 2022-present
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- Contribute to design, analysis, and reporting of clinical trials or other scientific research studies
- Assist in developing protocols and statistical analysis plans (SAP), including programming implementation details.
- Identify appropriate data collection instruments and report data issues or violations of study assumptions
- Provide programming specifications for derived variables and analysis datasets
- Collaborate with Data Science in preparing for database lock and perform statistical analyses as per the analysis plan with supervision
- Ensure appropriate interpretation of statistical deliverables in collaboration with other functions and support communications between assigned product team(s) and functional management
- Collaborate in publication of scientific research and ensure accuracy and internal consistency of reports and publications, including tables, listings, and figures

- Build/drive cross-functional relationships and collaboration, contribute to benefit-risk planning and assessment, and cross-functional development of output specifications to address both pre-planned safety analyses and ad hoc requests
- Collaborate within the Safety Statistics Group to implement strategic initiatives that address processes related to interpreting, monitoring, assessing, and reporting safety data to better characterize the safety profile of AbbVie products, improve efficiencies, and provide greater consistency across therapeutic areas
- Evaluate existing databases, both clinical studies and real-world databases, assist with feasibility assessment to identify fit-for-purpose data sources to address research questions, and develop detailed and actionable analysis plans for evidence generation to deliver high-quality, patient-centric evidence and insights to drive decisions in collaboration with GMA, Clinical Statistics, Data Sciences, Statistical Programming, and other stakeholders

Statistical Consultant

January 2021–August 2022

[Consulting group](#), Department of Statistics, Iowa State University, Ames, Iowa

- Provide advice to graduate students, faculty members, and scientists at ISU about their research designs, choosing statistical methods, and interpreting statistical analysis results
- Translate research questions into statistical data analysis, data science, machine learning, data analytics, including A/B testing, and providing data visualization insights using ggplot, dplyr, tidyverse, and plotly
- Work in cross-functional projects and communicating with data scientists and engineers to design, develop, and validate big data-driven predictive models, tools, and pipelines
- Implementing multiple statistical data analyses such as regression, mixed-effect and Bayesian models, non-linear models, Monte Carlo (MCMC) methods, probability, and classification techniques in study designs

Biostatistics Graduate Intern, Late Development Statistic Group

May 2021–August 2021

[Merck & Co](#), North Wales, PA, USA

- Employed languages and tools like R and shiny apps to deploy 2 survival analysis concepts for late development analysis into R libraries and web interfaces for automation of oncology clinical trial analysis
- Built pragmatic, scalable, and statistically rigorous solutions for survival analysis and smoothing hazard function
- Developed a project monitoring and tracking system by deploying R scripts into a web user interface dashboard
- Collaborated in a strategic qualification program for assessing and reporting risk levels of internal libraries for regulatory submissions and FDA approval
- Utilized excellent communication, management, and leadership skills to organize a 10-week training workshop on R programming skills related to clinical trial analysis and reporting for 15+ new coming interns

Biostatistics Graduate Intern, Biostatistics and Programming Division

September 2020–May 2021

[ClinChoice](#), Washington, PA, USA

- Performed simulation studies for oncology clinical trials and conducted software unit tests for clinical trial deliverables in the analysis and reporting of 3 group sequential design packages
- Provided statistical consultant for peers, technical and non-technical stakeholders as necessary
- Interacted with biostatistics, programming, IT, regulatory, and clinical staff to define and clarify the statistical methodology of the projects, create ADaM data sets following CDISC standards

Biostatistics Graduate Intern, Design Methodology Division

June 2020–September 2020

[Merck & Co](#), North Wales, PA, USA

- Collaborated in package development of 3+ packages ([simtrial](#), [gsDesign2](#), [r2rtf](#), and [gsdmvn](#))
- Conducted simulation studies for fixed/group sequential designs under non-proportional hazard assumption
- Partnered with the programming team to automate validation of ADaM datasets, Tables, Listings and Figures
- Designed and automated a pipeline to run a comparison in the SOP of SAS macros & R library validations
- Organized and contributed the outcomes of the internship projects into two peer-reviewed journal articles

Data Analyst, R&D Department

July 2015–July 2017

[Koosha Setareh Iranian International Co](#), Tehran, Iran

- Benefited statistical skills to interpret market data incorporation with sales and marketing department
- Applied generalized linear model to data from market research and generated data-driven business reports

- Designed and analyzed experiments to test new business ideas by adopting marketing strategies and converted the results into actionable recommendations
- Performed big data manipulation, data mining, and modeling on the quarterly data from the sales department

Data Analyst, R&D department

September 2014–June 2015

Iranian Shaygan Pars, Tehran, Iran

- Partnered with analysts, data scientists, program managers, and data engineers to generate valuable insights into product and business decisions
- Gathered and analyzed 2+ large, complex sales data sets by conducting explanatory data analysis, running feature selection, and applying ML algorithms to find the best predictive models

Statistical Consultant and Data Analyst

May 2014–September 2014

[Info-Tech International Company](#), Tehran, Iran

- Conducted hypothesis tests, including A/B tests for 4 web survey data using logistic regression
- Worked closely with stakeholders (leadership, operations, and product units) to deeply understand the business problems and to prioritize, formulate, and leverage business opportunities

Software Development

- **Shiny apps**
Created 4 interactive web pages straight from R for data visualization, tabulation, and analysis based on reactive programming models:
 - [Merck Oncology Survival Shiny app](#), Programming System Tracking Dashboard (using [plotly](#)), Adaptive two-in-one Design shiny, and [PetFindr](#) shiny
- **Package Development:**
Contributed to developing 6+ R packages, all relevant to popular topics in clinical trial studies
 - [pkglite](#), [gsDesign2](#), [r2rtf](#), [gsdmvn](#), [simtrial](#), [gsDesign](#)
 - [PetFindr](#): an R interface for the [petfinder.com](#) API (V2)
- **Other:**
 - Merck Oncology Analysis package, Merck qualification package, Merck Adaptive two-in-one package

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

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

- Organized the new year celebration event and hosted 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)