Amin Shirazi

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Professional Summary

- Ph.D. candidate and Statistical consultant at the Consulting Group, Iowa State University
- 14+ months internship experience at pharmaceutical and biotechnology companies
- Recipients of the Statistical Consulting Award and Teaching Excellence Award at Iowa State University
- 4+ years industry experience in data science in R&D of 3 companies in the design and building advanced analytical solutions to deliver superior business outcomes using research
- Performed quantitative and qualitative analysis to leverage critical business insights
- Experienced in working with large and complex data sets to solve a wide array of challenging problems using different analytical and statistical approaches
- Expert in R coding language and contributed to 6+ R library development and four Shiny apps deployment
- Working knowledge in R, R Markdown, JMP, LATEX, SAS, Shiny, rJAGS, rStan, Html, SPSS
- Proficiency with source code management tools and ticket management systems such as git, bitbucket, and Jira
- Former treasurer and the executive board member of Statistics in Community, a volunteer-run organization

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

Awards and Honors:

- **Daniel H. Mowrey Graduate Consulting Awards**, Spring 2021, Iowa State University
  Awarded in recognition of outstanding contributions in statistical consulting
- Teaching excellence award, Spring 2020, Iowa State University
  Awarded in recognition of outstanding teaching performance

Work Experience

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

- Providing advice to graduate students, faculty members, and scientists at ISU about their research designs, choosing statistical methods, and interpreting statistical analysis results
- Translating 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
- Working 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 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 ten-week workshop on 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 the 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

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 validating deliverables in analysis & reports generated in R
- Designed and automated a pipeline to run a comparison in the SOP of SAS macro & 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 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 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 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 different 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)