**Amin Shirazi**(515) 708-6372 | [ashirazist@gmail.com](mailto:ashirazist@gmail.com) | [https://www.linkedin.com/in/amin-shirazi/](https://www.linkedin.com/in/ashirazist/) | [Homepage](https://ashirazist.github.io/) | [GitHub](https://github.com/ashirazist)

**Professional Summary**

* Ph.D. candidate and Statistical consultant at the [Consulting Group](https://www.stat.iastate.edu/statistical-consulting), 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](https://isu-statcom.netlify.app/2006/10/officers/), 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](https://www.stat.iastate.edu/2021-graduate-student-award-recipients), 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](https://www.stat.iastate.edu/statistical-consulting), 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](https://www.merck.com/), 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](http://www.klserv.com/), 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](https://www.merck.com/), North Wales, PA, USA

* Collaborated in package development of 3+ packages ([simtrial](https://keaven.github.io/simtrial/), [gsDesign2](https://github.com/keaven/gsDesign2), [r2rtf](https://merck.github.io/r2rtf/authors.html), and [gsdmvn](https://github.com/keaven/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](http://kooshasetarehpasargad.com/koosha/en/), 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](http://infotech-co.com/), 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](https://plotly.com/)), Adaptive two-in-one Design shiny, and [PetFindr](https://earl88.github.io/PetFindr/index.html) shiny
* Package Development:  
  Contributed to developing different R packages, all relevant to popular topics in clinical trial studies
  + [pkglite](https://merck.github.io/pkglite/authors.html), [gsDesign2](https://keaven.github.io/gsDesign2/), [r2rtf](https://merck.github.io/r2rtf/authors.html), [gsdmvn](https://keaven.github.io/gsdmvn/), [simtrial](https://keaven.github.io/simtrial/), [gsDesign](https://keaven.github.io/gsDesign/)
  + [PetFindr](https://earl88.github.io/PetFindr/index.html): an R interface for the [petfinder.com](https://www.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](https://isu-statcom.netlify.app/2006/10/officers/) 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)