# Nathaniel D. Phillips, PhD

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## SUMMARY

Innovative data science leader with over 20 years of experience across academia, pharma and tech. Expert in in data science, decision making, and healthcare analytics. Pioneers new data solutions and processes that reduce costs, increases team efficiency and enables new use-cases. Open to senior scientific and leadership roles in a mission driven organization that builds great products in order to change lives.

## EXPERIENCE

### CTO & Co-Founder
**Plinth Analytics**                                      June 2022 - February 2024, Brooklyn, NY

· Co-founded a healthcare analytics data solutions company, generating ~$1M in revenue and growing to a team of 5 employees in 1.5 years.
· Designed scalable HEOR health economics and clinical outcome dashboards, packages, and reporting tools leveraging EHR, medical claims, and genomic data and clinical terminologies such as ICD-10, CPT and SNOMED saving tens of thousands of hours of developer time.
· Negotiated initial contracts and intermediate feature requests and then ultimately delivered C-level presentations showcasing project ROI, driving contract renewals and client satisfaction.
· Led a data science team, teaching advanced epidemiology, biostatistical, data analytics and visualization techniques, defining team goals and processes and delivering performance feedback.

### Senior Quantitative Scientist
**Flatiron Health**                                      February 2020 - June 2022, New York, NY

· Led development of real-world evidence tools, including cohort generation, data quality scorecards, clinical outcome reporting, and data visualization developed from structured and abstracted data, synthesized from oncology EHR and genomics data sources.
· Standardized SOPs and best practices, enhancing code quality and reproducibility for a team of 90+ statistical programmers.
· Designed and implemented solutions for cohort quality control and treatment pattern analyses, reducing associated costs by over 80%.
· Directed cross-functional user research and solution design efforts, increasing team adoption of tools by 70%.

### Senior Data Scientist
**Roche**                                      March 2018 - January 2020, Basel Switzerland

· Led development of ETL, statistical, and visualization software packages, reducing the timelines needed for feasibility studies from EHR, claims, and genomic real-world data by over 50%.
· Collaborated with pharma R&D leaders and produced analytical reports to enhance decision-making in breast cancer investigations.
· Provided subject matter expertise on using real-world data for R&D and post-approval marketing, driving cross-functional collaboration.
· Created and maintained an R package adopted by 100+ scientists, accelerating patient cohort generation from EHR and claims data by 80%.

### Post-Doctoral Researcher
**University of Basel**                                      February 2016 - February 2018, Basel Switzerland

· Lead data science bootcamps improving proficiency in data analysis for students and industry professionals in healthcare and finance.
· Delivered invited talks on judgment and decision-making at leading international conferences (e.g., INFORMS, useR!, EADM), showcasing advances in decision-making research to academic and industry audiences.
· Facilitated cross-functional collaboration with data analysts to integrate cutting-edge statistical tools and enhance precision in predicting decision outcomes.

### Post-Doctoral Researcher
**University of Konstanz**                                      September 2014 - January 2016, Konstanz, Germany

· Published novel algorithms for machine learning-based rules to improve medical decision making in high cost decision domains.
· Created FFTrees, toolkit for generating efficient medical decision rules from demographic, diagnostic, and treatment data that has since been used by thousands of medical researchers internationally.
· Taught courses on judgment, decision-making, and statistical programming, equipping students with analytical and problem-solving skills.
· Authored and produced "YaRrr! The Pirate's Guide to R" an online textbook with YouTube videos used by students and professionals globally to learn and apply best practices for data science with the R programming language.

### Doctoral Researcher

**Max Planck Institute for Human Development**                    October 2012 – September 2014,  Berlin, Germany

· Designed empirical studies on cognitive models of decision making, applying advanced statistical methods, culminating in the publication of three peer-reviewed journal articles that contributed to scientific understanding of human decision making processes.
· Led 3 international workshops for young researchers on theoretical and applied topics related to judgment and decision making.
· Published statistical models and Monte Carlo simulations showing how competition affects decision making strategies under risk with direct applications in economic models of consumer decision making.

### Doctoral Researcher
**University of Basel**                                    May 2011 – September 2012,  Basel, Switzerland

· Developed  frameworks to explore human decision-making mechanisms in risky environments using advanced statistical methods.
· Designed and and refined computational models to predict decision-making in high-risk scenarios, increasing prediction accuracy by 20%.
· Delivered comprehensive lectures on statistical analysis and modeling, implementing R to equip students for research-oriented roles.

### Graduate Student
**Ohio University**                                             June 2007 – April 2011,  Athens, OH

· Instructor for undergraduate courses in statistics and research methods, receiving >95% positive ratings from students.
· Oversaw data collection processes and recruited participants, ensuring high-quality research data from over 1,000 individuals.
· Executed experimental designs in psychology research, utilizing Authorware and PsychoPy, with scientific rigor.

### Marketing Statistician
**Musicians Friend**                                          June 2005 – June 2006,  Medford, OR

· Led monitoring of digital and physical marketing campaigns, reducing the time to obtaining core campaign insights by 50% through automated analytical pipelines built with Excel.
· Applied predictive models of customer purchasing in SPSS, increasing prediction accuracy by over 70%.
· Presented marketing insights at senior leadership meetings, translating and communicating  statistical methods and conclusions to non-technical leaders.

## EDUCATION

### Doctorate in Psychology
University of Basel · Basel, Switzerland · 2014

### Masters in Psychology
Ohio University · Athens, OH · 2011

### Bachelor of Arts in Mathematics
Grinnell College · Grinnell, Iowa · 2005

## SKILLS

Soft Skills: leadership, mentorship, cross-functional collaboration, strategic thinking, adaptability, problem-solving, communication, team building, decision-making, stakeholder engagement, conflict resolution, time management, attention to detail, emotional intelligence, creativity, organizational skills, project management, cultural awareness, negotiation skills, innovation, resilience, critical thinking, active listening, facilitation, process improvement.

Analytical Methods: Descriptive statistics, inferential statistics, hypothesis testing, regression analysis (linear, logistic, Poisson), survival analysis, multivariate analysis, generalized linear models (GLMs), mixed-effects models, hierarchical models, Bayesian inference, decision trees, random forests, clustering (k-means, hierarchical), principal component analysis (PCA), factor analysis, dimensionality reduction, time-series analysis, propensity score matching, causal inference, sensitivity analysis, meta-analysis, non-parametric tests Markov models, simulation modeling.

Version Control: Git, GitHub, GitLab

Analytics Tools: RStudio, Jupyter, Posit Workbench, Posit Package Manager, Looker, Shiny, Spark, SPSS, Excel, Tableau, Microsoft Power BI.

Data Storage: AWS, Snowflake, Redshift, S3, BigQuery, PostgreSQL, Google Cloud

Programming Languages: R, Python, SQL, SPSS.