# Mackenzie Bogiages

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## WORK EXPERIENCE

**Truveta**                                                                                              **Seattle, WA**
*Statistician | Software Engineer*                                              November 2021 – Present

Software Development Kit Design and Build

Designed and implemented Python and R SDKs to optimize researcher processes and increase usage of our product.

- Independently built SDKs with 30+ APIs to expedite researcher processes including getting and cleaning data leveraging ServerlessSQL, analyzing clinical data, loading and viewing complex imaging data, and leveraging external data sources.
- Collaborated on clustering feature to group patients based on treatments and outcomes using Heterogenous GraphSAGE, reduced 16-dimensional embedding vector to 2D and designed interactive visualizations in R and Python.
- Led manual deployments and spearheaded shift to continuous deployments to dev environment with rigorous smoke testing. Parallelized deployment pipelines and outlined thorough testing work to ensure higher product stability.

Proof of Product

- Executed statistical analyses for the research team's publications and insights on topics including HPV, COVID-19, vaccine adherence, public health inequities, and more using Bayesian statistics, regression, Poisson, and other methods while leveraging the SDKs I developed. Performed analyses, identified problems, and devised reproducible solutions in our platform with our data while also identifying data bugs and areas for improvement.
- Worked with clients to bring features to life that improve customer experience and expedite research processes. Created customer templates for different data analysis to optimize performance based on their needs and engineering restraints (memory, breaking changes, etc.). Demonstrated platform and analyses to customers of varying technical backgrounds.

**IBM**                                                                                              **Cambridge, MA**
*Senior Data Scientist | Managing Consultant*                              October 2018 – November 2021

Clinical Intelligence Automation with Natural Language Processing on AWS

Developed end-to-end platform to automate prior authorization for health and government organizations using EMR data.

- Engaged with client executives to sell the solution as a service- led client demos and sales presentations, created value cases, and fielded technical questions. Developed 3-year roadmap while managing sales pipeline and lead development.
- Led an agile team of ten data scientists. Identified customer needs and broke down complex problems into steps to drive results from clinical, technical, and business teams.
- Achieved 50% reduction in clinical workload, 20% operational savings, and above 90% accuracy for the rules engine.
- Increased scalability solution outside of client work by leading the development of a medical policy web scrapper.

Clinical Evaluation for Medical Device Regulation

Developed a cognitive evidence gathering solution for medical device regulation that expedites client classification, summary, and evidence gathering processes on real world data.

- Achieved 2,600% increase in speed, 660% increase in throughput, and 91% accuracy when compared to clinical data.
- Led the model training efforts and data scientists in an organized way, practiced effective decision making, facilitated knowledge transfer sessions between client SMEs and our technical team, developed training guidelines.

Demand Forecasting Platform

Developed a demand forecasting platform for biologics for a multinational biopharmaceutical company.

- Reached 94% accuracy using 30+ features across 4,000+ accounts using XGBoost and CNN on claims data.

## SKILLS

- Analytics: Statistical Analysis, Natural Language Processing, Forecasting, Bayesian Statistics, Markov Models, Optimization
- Programming: Python, R, Stata, SQL, MatLab, GAMS, Octave
- Tools: Jira, Github, Sourcetree, Excel, Synapse, AWS, Tableau, Asana, Trello, ADO, MS Office
- Languages: Spanish (Fluent), Modern Greek (Elementary)
- Soft Skills: Public Speaking, Client Relations, Critical Thinking, Problem Solving, Agile Project Management

## EDUCATION AND PUBLICATIONS

**University of North Carolina at Chapel Hill –**                              **Chapel Hill, NC**
*B.S. Statistics & Analytics, B.A. Economics, minor Hispanic Studies*                              May 2018
**Honors:** Carolina Research Scholar, Buckley Public Service Scholar, Heritage Greece Scholar

### Publications

1. Smits et al., Risk of COVID-19 breakthrough infection and hospitalization in individuals with comorbidities, Vaccine, Volume 41, Issue 15, 2023, Pages 2447-2455, ISSN 0264-410X, https://doi.org/10.1016/j.vaccine.2023.02.038.
2. Bogiages, (2017) "Examining the Impact of Education on Diabetes Rates," *Undergraduate Economic Review*. Vol. 14: Iss 1.