Eric **Chou**

Data Quality Analyst

Atlanta, Georgia

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Education

Emory University

M.S. Biostatistics

- Awarded by the biostatistics department for outstanding biostatistical research and excellent poster presentation
- Analyzed associations between transportation vulnerability and adverse diabetic health outcomes using ArcGIS visualization, Poisson regression, and Bayesian regression models with spatial random effects

University of Pittsburgh

B.S. Bioinformatics

Experience

Metro Atlanta Rapid Transit Authority (MARTA)

Atlanta, Georgia, USA

Data Quality Analyst

May 2022 - present

- Developed and enhanced data management and governance processes behind data objects integral toward decision-making and enterprise asset management across several of MARTA's key business functions
- Designed and implemented strategies for data quality assurance in order to detect and correct data issues, and conducted root cause analyses of recurring issues to oversee systematic enhancement in reporting practices
- Implemented modern regression methods and data modeling approaches in R and Python to assess drivers and key factors behind MARTA's customer segmentation and ridership makeup
- Designed and developed user-friendly dashboards and report interfaces in PowerBI and R Shiny to facilitate on-demand insights into KPI trends for internal stakeholders across MARTA, including C-level executives
- Handled ad-hoc data requests with a 100% on-time delivery rate for a variety of internal and external stakeholders, via flexible utilization of Python, R, and SQL for data packaging, analysis, and visualization

Emory University

Atlanta, Georgia, USA

Data Analyst

Sep 2020 - May 2022

- Used a combination of Stata, SAS, and R for cluster-based trajectory analysis of time series data for how pain intensity progresses in patients with sickle cell disease
- Applied predictive modeling techniques in assessing the temporal dynamics of pain in sickle cell patients via Markov models
- Transformed large datasets of diagnosis data and longitudinal pain scores using Python and R to develop phenotypes for chronic pain and pain-related interference in sickle cell patients

University of Pittsburgh

Pittsburgh, Pennsylvania, USA

Systems Programmer

Sep 2017 - Aug 2020

- Worked as part of the Natural Product Drug Interactions (NaPDI) team to develop features for a data repository. Maintained and curated the web application's backend PostgreSQL infrastructure and helped manage its deployment via AWS EC2
- Processed natural product experiment data via a combination of SQL and Node.js code to implement user needs for data visualization and interface tools for the NaPDI data repository
- Developed a contextual drug-drug interaction alerting system to enhance clinical decision making in collaboration with pharmacology experts. Constructed algorithms for generating individualized warnings based on patient data
- Performed large scale retrospective analyses on encounter-based patient data through transforming, loading, and subsetting an Amazon Redshift database via SQL and R

University of Pittsburgh

Pittsburgh, Pennsylvania, USA

Research Analyst

Jan 2015 - Sep 2017

- Analyzed pharmacology research questions using SQL and Python to process and query large datasets of patient records under the Observational Medical Outcomes Partnership (OMOP) Common Data Model Version 5
- Applied database and scripting skills via loading, refining, and analyzing Medicare patient data toward implementation of an EHR-based nursing home intervention to prevent adverse drug events
- Implemented Natural Language Processing methods and regular expressions in Python to parse unstructured clinical notes

Skills

Programming: R ● Python ● Java ● SQL ● SAS ● Stata ● Java ● JavaScript

Data Visualization: Shiny ● Power BI ● Tableau ● Rmarkdown ● Jupyter ● ArcGIS

Software: Git ● AWS ● Docker ● Node.js

Select Publications

1. Bakshi, N., Astles, R., Chou, E., Hurreh, A., Sil, S., Sinha, C. B., Sanders, K. A., Peddineni, M., Gillespie, S. E., Keesari, R., et al. (2023). Multimodal phenotyping and correlates of pain following hematopoietic cell transplant in children with sickle cell disease. *Pediatric Blood & Cancer*, *70*(1), e30046.
2. Villa Zapata, L., Boyce, R. D., Chou, E., Hansten, P. D., Horn, J. R., Gephart, S. M., Subbian, V., Romero, A., & Malone, D. C. (2022). QTc prolongation with the use of hydroxychloroquine and concomitant arrhythmogenic medications: A retrospective study using electronic health records data. *Drugs-Real World Outcomes*, *9*(3), 415–423.
3. Chou, E., Boyce, R. D., Balkan, B., Subbian, V., Romero, A., Hansten, P. D., Horn, J. R., Gephart, S., & Malone, D. C. (2021). Designing and evaluating contextualized drug–drug interaction algorithms. *JAMIA Open*, *4*(1), ooab023.
4. Birer-Williams, C., Gufford, B. T., Chou, E., Alilio, M., VanAlstine, S., Morley, R. E., McCune, J. S., Paine, M. F., & Boyce, R. D. (2020). A new data repository for pharmacokinetic natural product-drug interactions: From chemical characterization to clinical studies. *Drug Metabolism and Disposition*, *48*(10), 1104–1112.

Full list of 8 publications: `https://scholar.google.com/citations?user=gqYynN8AAAAJ&hl=en`