Eric **Chou**

Data Quality Analyst

Atlanta, Georgia

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Education

Emory University Rollins School of Public Health *Atlanta, Georgia, USA*

Master of Science (M.S.), Biostatistics

University of Pittsburgh *Pittsburgh, Pennsylvania, USA*

Bachelor of Science (B.S.), Bioinformatics

Experience

Metro Atlanta Rapid Transit Authority (MARTA), Department of Research & Analysis *Atlanta, Georgia, USA*

Data Quality Analyst *May 2022 - present*

- Develop and enhance data management and governance processes behind data objects integral toward strategic decision-making across several of MARTA's key business functions
- Design and implement strategies for data quality assurance in order to detect and correct data issues, and conduct root cause analyses of recurring issues to oversee systematic enhancement in reporting practices
- Implement unsupervised learning and modern regression approaches in R and Python to assess drivers and key factors behind MARTA's customer segmentation and ridership forecasting
- Produce user-friendly dashboards and report interfaces in Power BI and R Shiny to facilitate on-demand insights into KPI trends for internal stakeholders across MARTA, including C-level executives
- Handle 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 School of Medicine *Atlanta, Georgia, USA*

Data Analyst *Sep 2020 - May 2022*

- Analyzed how pain intensity progresses in patients with sickle cell disease using time series clustering models in R
- Applied predictive modeling techniques in assessing the temporal dynamics of pain in sickle cell patients via Markov models
- Transformed and analyzed large quantitative datasets of ICD 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, Department of Biomedical Informatics *Pittsburgh, Pennsylvania, USA*

Systems Programmer *May 2016 - Aug 2020*

- Analyzed pharmacology research questions using SQL and Python to maintain and query large datasets of patient records under the Observational Medical Outcomes Partnership (OMOP) Common Data Model
- Worked as part of the Natural Product Drug Interactions (NaPDI) team to develop features for a data repository. Maintained this web application's backend PostgreSQL database and helped manage its deployment via AWS EC2
- Packaged natural product experiment data for visualization and interface tools in the NaPDI data repository via SQL and Node.js code
- 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 ICD diagnosis codes and RxNorm prescription records
- Performed large scale retrospective analyses on encounter-based longitudinal patient data through transforming, loading, and subsetting an Amazon Redshift database via SQL and R

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., & others. (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. Ie, K., Chou, E., Boyce, R. D., & Albert, S. M. (2021). Fall risk-increasing drugs, polypharmacy, and falls among low-income community-dwelling older adults. *Innovation in Aging*, *5*(1), igab001.
5. Boyce, R., Malone, D., Hansten, P., Horn, J., Romero, A., Gephart, S., & Chou, E. (2020). Contextual drug interaction decision support algorithm for warfarin-nonsteroidal anti-inflammatory drugs (NSAIDs). *Sat*, *12*, 00.
6. 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.
7. Boyce, R. D., Ragueneau-Majlessi, I., Yu, J., Tay-Sontheimer, J., Kinsella, C., Chou, E., Brochhausen, M., Judkins, J., Gufford, B. T., Pinkleton, B. E., & others. (2018). Developing user personas to aid in the design of a user-centered natural product-drug interaction information resource for researchers. *AMIA Annual Symposium Proceedings*, *2018*, 279.
8. Ie, K., Chou, E., Boyce, R. D., & Albert, S. M. (2017). Potentially harmful medication use and decline in health-related quality of life among community-dwelling older adults. *Drugs-Real World Outcomes*, *4*, 257–264.

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