

Skills

Programming	R (dplyr, tidyr, ggplot), Python, Perl, bash, Shiny, RMarkdown, knitr, Jupyter, HTML, CSS Working knowledge of Pub/Sub, Dataproc, Dataflow, Cloud Composer (Airflow), Spark, Hadoop, Dialogflow, AutoML
Warehousing	SQL, BigQuery, Snowflake Working knowledge of Redshift, MongoDB, Datastore, Hive, BaseX
Other technologies	Tableau, Jira, Confluence, Git, Unix/Linux environments, AWS, REDCap Working knowledge of Docker, Kubernetes

Professional Experience

Senior Bioinformatics Scientist	RTI International, Research Triangle Park, NC	Jun 2015 - present
<ul style="list-style-type: none">Supervise multiple teams of analysts and developers as program manager and technical task leadDesign and build extract, transform & load (ETL) pipelines on AWS & GCP to ingest and warehouse dataUse R to implement data transformations (dplyr, tidyr) and to create novel visualizations (ggplot)Utilize Snowpipe to ingest Twitter JSON data into SnowflakeCreate intermediate tables from raw data to support ad-hoc analyses and reportingDesign and create tools and pipelines to support analytics needs and facilitate analysis and insightsInterface with technical and non-technical stakeholders to resolve complex business and technical issues		
Data Engineer (Consultant)	Animal Cancer DX, LLC, Raleigh, NC	Jun 2021 - present
<ul style="list-style-type: none">Designed and created an ETL pipeline to aggregate and stage experimental data on AWS S3, ingest data into RDS; application hosted on EC2 automatically generates and distributes reports with statistical analyses to stakeholdersDesigned and created a Shiny application to be hosted in a Docker containerDesigned and built data browser dashboard using Shiny and ggplot		
Bioinformatics Data Scientist	Johns Hopkins Medical Institutions, Baltimore, MD	Aug 2013 - Jun 2015
<ul style="list-style-type: none">Completed 2-year data mining project in 10 weeks using R, SQL, and bashDesigned and created an ETL batch process to stage public health datasets and ingest into a SQL databaseUsed Python to implement data transformations (pandas) and create novel visualizations (matplotlib, ggplot)Designed and implemented analysis pipelines for large genomic datasets for exploratory analysis and publicationEstablished unsupervised machine learning methods into quality control process		
Bioinformatics Analyst	Johns Hopkins Medical Institutions, Baltimore, MD	Oct 2011 - Aug 2013
<ul style="list-style-type: none">Designed and created an ETL pipeline to ingest and transform public health data sources for analytic use, increasing the efficiency by 700% over the legacy workflow		
Bioinformatics Researcher	Putonti Lab, Loyola University, Chicago, IL	Jan 2010 - Jan 2011
<ul style="list-style-type: none">Created pipeline to aggregate and analyze genomic data extracted from NCBI repository		

Education

Johns Hopkins University	Baltimore, MD
M.Sc. Bioinformatics	Aug 2013
Loyola University	Chicago, IL
B.Sc. Bioinformatics	May 2011

Publications

Gern, J. E., Jackson, D. J., Lemanske, R. F., Seroogy, C. M., Tachinardi, U., Craven, M., **Hwang, S. Y.**, ... Bacharier, L. B. (2019). The Children's Respiratory and Environmental Workgroup (CREW) Birth Cohort Consortium: Design, methods, and study population. *Respiratory Research*, 20(1), 115. doi:10.1186/s12931-019-1088-9

Vaz, M., **Hwang, S. Y.**, Kagiampaki, I., Phallen, J., Patil, A., O'Hagan, H. M., ... Baylin, S. B. (2017). Chronic cigarette smoke-induced epigenomic changes precede sensitization of bronchial epithelial cells to single-step transformation by KRAS mutations. *Cancer Cell*, 32, 360–376. doi:10.1016/j.ccell.2017.08.006