

EDUCATION AND CURRENT WORK

Johns Hopkins University School of Medicine <i>PhD Student, Biomedical Informatics and Data Sciences</i>	Baltimore, MD Aug. 2020 – Present
Columbia University Medical Center <i>Research Associate, Biomedical Informatics</i>	New York, NY Sep. 2019 – Aug. 2020
Johns Hopkins University School of Medicine <i>Master of Science, Health Science Informatics with Health Economics certificate</i>	Baltimore, MD Jul. 2017 – Aug. 2019
University of Calgary School of Medicine <i>Visiting Student, Bioinformatics</i>	Calgary, Canada Jun. 2016 – Dec. 2016
Dalian University of Technology School of Life and Sciences <i>Bachelor of Science, Bioinformatics</i> Award: China National Scholarship among 0.2% colleges	Dalian, China Jun. 2013 - Aug. 2017

RESEARCH EXPERIENCE

Decision Support for Breast Cancer Chemoprevention <i>Research Associate, Columbia University Department of Biomedical Informatics</i>	Advisor: Rita Kukafka Sep. 2019 - Present
<ul style="list-style-type: none"> ○ Goal: to increase the wellness of preventing breast cancer for high-risk patients by integrating patient-centered and provider-centered decision support tools ○ Obtain, clean and analyze aggregated data from EHR to identify women’s risks (BCSC model & Gail model) for breast cancer and facilitate clinical trials recruitment ○ Analyze survey data to evaluate the influence of decision support tools (work in progress) ○ Implement a data pipeline using Fast Healthcare Interoperability Resource (FHIR) to pull data from different EHR systems (Epic, Cerner, Allscripts) and stream them into patient-centered decision support tool (work in progress) 	
Mining Adverse Drug Events in Biomedical Abstract <i>Graduate Researcher, Johns Hopkins Division of Health Science Informatics</i>	Advisor: Taxiarchis Botsis Jan. 2019 - Aug. 2019
<ul style="list-style-type: none"> ○ Goal: to determine whether SemRep might efficiently support the retrieval of adverse drug event information from biomedical abstracts ○ Detected drug and symptom entities and predicted aliskiren related drug-symptom relationship from 1,203 PubMed abstracts through SemRep ○ Analyzed XML based drug-symptom outcomes by finding entities linked to term of interest and inferring potential adverse drug event ○ Quantified the semantic relatedness between two entities by using prediction-based semantic indexing (work in progress) 	
Clustering Analysis of Comorbidity in eMERGE Cohorts <i>Graduate Researcher, Johns Hopkins Division of Health Science Informatics</i>	Advisor: Casey Overby Taylor Apr. 2019 - Aug. 2019
<ul style="list-style-type: none"> ○ Goal: to stratify the risk of various comorbidities in eMERGE cohorts by understanding the comorbidity cluster ○ Conducted literature review in comorbidity index (Charlson Cormorbidity index & Johns Hopkins ACG indices) and comorbidity cluster ○ Identified and described the biological patterns of comorbidities in a range of clinical conditions using K means, hierarchical and spectral clustering methods ○ Revealed the relation between comorbidity clusters and severity conditions then identified the most significant clustering method 	

COMPETITION & TEAM PROJECT

Daily Rounding Report for Inpatient Practice

Team member

Oct. 2019 - Nov. 2019

- o Built Customized application for display of EHR in hospital-based practice
- o Used FHIR to extract patient information and used JavaScript D3 to visualize

Novartis - Tumor Mutation Burden Distribution in Melanoma

Team member

Sep. 2019 - Oct. 2019

- o Integrated 13 skin cancer studies, normalized their TMB, and built a R shiny app to visualize TMB distribution according to clinical and genomics factors
- o Won second prize during 2 weeks academic hackathon; front end R shiny: <https://github.com/tinghe14/TMB>

Breast Cancer Data Search

Undergraduate Executor

Jul. 2016 - Aug. 2016

- o Built Breast Cancer Related Mutation Query web application based on Java, HTML, and MySQL
- o Used Decision Tree model to predict unknown classes of patients through WEKA machine learning tool

Health Doctor - Android App

Undergraduate Team Leader

Jul. 2015 - Sep. 2015

- o Led a 6-student team to develop app providing general health improvement recommendations based on medical data
- o Gave a presentation and won 1st prize for provincial competition

PUBLICATION & PRESENTATION

Publication: Taylor, C. O., Lemke, K. W., Richards, T. M., Roe, K. D., **He, T.**, Arruda-Olson, A., ... Kullo, I. (2019). Comorbidity Characterization Among eMERGE Institutions: A Pilot Evaluation with the Johns Hopkins Adjusted Clinical Groups® System. AMIA Summits on Translational Science Proceedings, 2019, 145.

Poster: **He T**, Taylor CO. (Sept, 2018) Identify symptom cluster in pregnant women experiencing preterm birth. 9th ACM Conference on Bioinformatics, Computational Biology, and Health Informatics

Poster: **He T**, Kreimeyer K, Botsis T. (March, 2020) Using SemRep to Detect Adverse Drug Events in Biomedical Abstracts. AMIA 2020 Summit

LEADERSHIP EXPERIENCE

NIH - ALL of Us Research Program

Volunteer (Data Provider)

Dec. 2019 - Present

Johns Hopkins Division of Health Sciences Informatics

Graduate Teaching Assistant

Sep. 2018 - Dec. 2018

- o Introduction to Biomedical and Public Health Informatics - Instructor: Harold Lehmann
- o Informatics & Clinical Research Lifecycle: Tools, Techniques and Processes - Instructor: Casey Overby Taylor

RESEARCH AND TECHNICAL SKILLS

Programming: R, Python, SAS, SQL, Shell, R shiny, JavaScript **Health:** FHIR, Coding Standard, Decision Support
Modeling: Statistical Modeling, Machine Learning, Natural Language Processing **Tool:** SemRep, NLTK, OHDSI