WANMENG LIU

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EDUCATION

GEORGIA INSTITUTE OF TECHNOLOGY, *Atlanta, Georgia*   Jan. 2021 - Expected Graduation: May 2022

Master of Science, Health Systems (GPA: 3.71/4.0)

Relevant courses: Regression Analysis, Computational Statistics, Simulation, Biostatistics, Time Series Analysis, Deterministic Optimization, Healthcare Design of Future, Healthcare Delivery, Engineering Economy

THE GEORGE WASHINGTON UNIVERSITY, *Washington, D.C.*   Sept. 2017 - Dec. 2019

Bachelor of Arts, International Affairs (Honors: cum laude)

SKILLS

Python | R | SQL | Spark | MATLAB | Numpy | Pandas | Scikit-learn | Matplotlib | Seaborn | Plotly | Arena | Mandarin Chinese

PROFESSIONAL EXPERIENCE

GEORGIA INSTITUTE OF TECHNOLOGY, *Atlanta, Georgia*   August 2021 - Present

Graduate Assistant, ISyE

- Extracted millions of rows of Medicaid data for 50 U.S. states with SQL for further analysis on pediatric mental health treatment
- Built data manipulation and processing pipeline to handle large amounts of patient data to ensure data security and data quality
- Continuously refined data extraction process with testing and performance evaluation
- Remedied ad hoc data extraction issues
- Mentored new team members and helped them get on board with projects
- Built large scale medical event table for further analysis

GEORGIA INSTITUTE OF TECHNOLOGY, *Atlanta, Georgia*   July 2021 - August 2021

Graduate Assistant, ISyE

- Conducted exploratory data analysis and regression analysis on state of Georgia Covid-19 data from March 2020 to June 2021
- Determined associations between socioeconomic factors and Covid-19 cases, deaths, and hospitalizations with regression models and non-parametric hypothesis tests in R
- Investigated correlations between political factors and vaccination rates in each county with one-way ANOVA in R
- Developed 20+ interactive maps to show Covid-19 hotspots in 159 counties in Georgia effectively with Python Plotly Library
- Created temporal plots to compare Covid-19 cases, deaths, and hospitalizations in each county with Python Matplotlib and Seaborn
- Delivered scientific reports and presentations to communicate results of statistical modeling and their policy implications with audience from both technical and non-technical backgrounds

NATIONAL LGBT CHAMBER OF COMMERCE (NGLCC), *Washington, D.C.*   June 2018 - July 2018

Intern, NGLCC Global

- Produced social media content, newsletters, invitation letters for donors, and blog posts
- Recommended over ten grant programs to fund NGLCC Global projects
- Delivered presentations on virtual reality, employee training, and social inclusion

PROJECT EXPERIENCE

MODELING OF CRUISE SHIP COVID-19 SPREAD   *January 2022 - Present*

- Collaborating with Center for Disease Control and Prevention (CDC) Quarantine and Border Health Services (QBHS) Branch on Covid-19 spread intervention analysis
- Estimating Covid-19 infections in cruise ship settings under different levels of interventions
- Producing simulation models to help CDC evaluate the effectiveness of various interventions on mitigating the spread of Covid-19 in cruise ship settings

STROKE PREDICTION   *language: Python, R*

- Analyzed a healthcare dataset with 10 clinical features
- Built a logistic regression model with AIC model selection criterion to predict the probability of a patient having a stroke
- Conducted hypothesis tests to determine the factors that are significantly correlated with the occurrence of stroke

NBA GAME OUTCOME PREDICTION   *language: Python, R*

- Analyzed NBA game data from 2004 season to 2020 season to predict competition outcomes
- Employed various predictive machine learning models including random forest, logistic regression, support vector machine