

# Tianyuan (Tiana) Wang

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## EDUCATION

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### University of Georgia

*PhD in Agricultural and Applied Economics*

Athens, GA

*Sept 2023 – Present*

### University of Georgia

*M.S. in Statistics*

Athens, GA

*Sept 2023 – Present*

### Johns Hopkins University

*M.S. in Government Analytics (Data Analytics and Policy)*

Washington, DC

*Sept 2018 – Jun 2020*

### Hong Kong Baptist University

*B.B.A. in Applied Economics with Minor in Finance*

Hong Kong

*Sept 2014 – Jun 2018*

## SKILLS & INTERESTS

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**Skills:** R, Python, SQL, Stata, L<sup>A</sup>T<sub>E</sub>X, Microsoft Suite, PowerBI, Tableau

**Interests:** Green Transition, Policy Evaluation, Data Science

**Hobbies:** Swimming (Certified as China National Level II Athlete), Hiking, Tennis

## WORKING EXPERIENCE

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### International Monetary Fund (IMF)

*Research Analyst (Outstanding Performance, top 10 under 30% curve distribution)*

Washington, DC

*Dec 2020 – Jul 2023*

- Closely working with economists in three SACU country teams and across four departments, specializing in research support, ETL pipelines, and timely resolution of glitches. [Excel, STATA, R]
- Developed and regularly maintained interactive surveillance dashboards for economic diagnosis, and drafted data-driven analyses with charts for IMF Article IV Staff Reports. [Excel, Python, R, Flexdashboard in R]
- Managed economic outlook files, including cleaning, restructuring, and modeling for four sectors (real, fiscal, external, financial) to enhance efficiency and consistency; collaborated with country teams and national authorities to update data and projections. [Excel, SQL]
- Periodically appraised inputs and outputs of historical series and 5-year outlooks, validated indicator calculations using cross-country datasets, and developed a validation process for internal data submissions. [Excel]
- Drafted contingency memos on topics including civil unrest in South Africa and Eswatini, the COVID-19 situation in Namibia, and the Namibia Policy Responses Tracker to COVID-19 (details in [COVID-19 IMF Policy Tracker](#)).

### Global Risk Intelligence

*Lead Data Scientist*

Washington, DC

*Jun 2019 – Feb 2020*

- Led a team of 3 colleagues to design and implement a machine learning project focused on supply chain risk in the aerospace industry; presented findings and strategic recommendations to high-profile clients. [R, Tableau]
- Built a data pipeline using decision-tree classification to provide risk-based recommendations for diversifying procurement sources and clustering analysis to evaluate similarities among suppliers. [Python]
- Performed various NLP tasks, including text mining from Twitter and public-accessible documents; conducted keyness testing (Quanteda in R) with sentiment analysis (VADER in Python), and implemented Structured Topic Modeling (STM) to assess supplier similarities. [R, Python, Excel]
- Developed a risk assessment dashboard with a structured playbook to ensure reproducibility. [R, Tableau]

## TEACHING EXPERIENCE

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### University of Georgia, Department of Agricultural and Applied Economics

- AAEC 2580 – Applied Microeconomic Principles | *Supervised by Dr. Greg Colson, Spring 2024*
- AAEC 4730 – World Food Economics | *Supervised by Dr. Ellen McCullough, Fall 2024*

### Hong Kong Baptist University, Department of Accountancy, Economics and Finance

- BUSI 4005 - BBA Project (Professional Track) | *Supervised by Dr. Kin Ming Wong, AY22 – Present*

## PUBLICATION & PAPER IN PROGRESS

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“Macro-critical Impact of COVID-19 on Gender Inequality in SACU Region,” with Fatou Thioune, Giorgia Albertin, Romina Kazandjian (*forrrthcoming IMF Working Paper*).

“Government R&D and Climate Change Technologies” with Dr. Susana Ferreira (*advisor*).

## RESEARCH PROJECTS

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### A Machine Learning-based Toolbox for Climate Policy Analysis

Washington, DC

\$50,000 grant from International Monetary fund | [Brief](#)

Research Analyst & Toolbox Developer

Oct 2021 – Jul 2023

- Led the exploration of potential analysis methods, ensuring full consideration of data availability and model feasibility using the Climate Policy Database; prepared the proposal and successfully pitched the project. [R]
- Developed a machine learning prototype in R to perform text analysis, identifying, grouping, and reclassifying climate policies by peer countries, objectives, and similarities, enhancing policy comparison. [Python]

### IMF Lending Programs Evaluation and Digitalization

Washington, DC

Part of IMF modernization project

Data Analyst

Jun 2021 – Feb 2023

- Compiled lending data (since 1952, resulting in 50,000+ rows) with key economic indicators and analytical groupings, analyzing countries' exposure and the impact of IMF lending policies. [SQL, Excel]
- Reconstructed and standardized the lending database using the IMF Monitoring of Fund Arrangements database, IMF Financial Data Query Tool, and internal data sources in SQL; cross-checked missing values by reviewing Staff Reports and resolved discrepancies. [SQL, Excel]
- Created an interactive prototype with automatic updates using multiple data sources for easier review, saving 95% of maintenance time. [Excel]
- Collaborated with the IT department to design and develop a dashboard for real-time monitoring and signaling of IMF lending program statuses, with weekly reports to senior IMF management. [SQL, PowerBI]

### Using Sentiment to Measure Market Stress

Washington, DC

\$35,000 grant from International Monetary fund | [Brief](#)

Research Analyst & Programmer

Jun 2020 – May 2021

- Replicated financial risk prediction models based on IMF Working Paper WP/04/52, extended the ability of the existing EWS with a sentiment index constructed from news in Financial Times, and developed loops to automate the process. [Python, Excel, STATA]
- Backtested decision-tree, random-forest, and XGBoost model with monthly frequency data and did horse-racing comparisons using confusion matrix and F1 score, to match up financial crisis periods. [Python]