

Arisa Thongngam

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PROFESSIONAL SUMMARY

Recent Economics Adjunct Instructor at Colorado State University specializing in **applied econometrics, Exploratory Data Analysis (EDA), Causal Inference, and Predictive Modeling** with a strong background in **development and environmental economics**. Seeking to leverage **advanced quantitative modeling, statistical modeling** and **programming skills** in a **Data Analyst or Scientist role** to drive data-driven business insights.

SKILLS

- **Proficient in:** data wrangling, Exploratory Data Analysis (EDA), data visualization, econometric predictive and descriptive modeling - Difference-in-differences (DiD) and 2-stage least squares (2SLS); statistical methods - causal inference, regression analysis, hypothesis testing, optimization; programming languages - STATA, R, Python (libraries include Pandas, Numpy, Seaborn, Matplotlib, etc.), LaTeX, SQL; other software – Excel (expert), Gretl, Tableau.
- **Experience in:** Forecasting time-series data - Univariate models, Vector Autoregression (VAR), Vector Error Correction Model (VECM); Machine Learning - Principal Component Analysis (PCA), image classification, k-nearest neighbors (k-NN), hierarchical clustering, Linear Discriminant Analysis (LDA).
- **Languages:** Thai (Native) & English (Fluent)

EDUCATION

Master of Science in Economics | University of Wisconsin-Madison

Graduated May 2024

- **GPA: 3.65**

Bachelor of Arts in Economics | Colorado State University

Graduated May 2022

- Minors: Mathematics, Statistics | **Cum Laude** | **GPA: 3.895**

AWARDS & ACHIEVEMENTS

Outstanding Economics Major | Colorado State University

2021-2022

- *Awarded to one senior economics major for exceptional academics and leadership within the department.*

Excellence in Economics | Colorado State University

2022

- *Recognized for achieving top GPA among economics majors and contributing to research initiatives.*

Dean's List | Colorado State University

FA2018, SP2020, FA2020, FA2021, SP2022

- *Recognized for a semester GPA of 3.80 or above.*

WORK EXPERIENCE

Adjunct Instructor | Colorado State University

Aug 2025 – May 2026

- Instructed courses in Econometrics, Microeconomics, and Gender in the economy.
- Delivered lectures on causal inference, regression analyses, and hypothesis testing for 50+ students.
- Integrated STATA into the curriculum to build student proficiency in data analysis and statistical software, ensuring practical technical competency in real-world applications.
- Designed rigorous problem sets and exams to evaluate quantitative reasoning and statistical literacy.

Research Assistant | Colorado State University

Dec 2024 – Aug 2025

- Collaborated cross-functionally with 5+ researchers to revise manuscript titled “**WASH and Women’s Empowerment in Haiti**” based on peer reviewer feedback, securing a Revise & Resubmit (R&R) decision for actionable publication.
- Conducted comprehensive literature reviews to strengthen the theoretical and historical background and framework of the research paper.

Research Assistant | University of Wisconsin-Madison

Jan – May 2023

- Enhanced the Kelly Criterion model to incorporate consumption factors beyond long-term capital growth maximization.
- Applied Python-based dynamic programming techniques to develop a model inspired by the Bellman equation for optimization.

- Investigated the impacts of Water, Sanitation and Hygiene (WASH) on women's empowerment in Haiti.
- Conducted Exploratory Data Analysis (EDA) and Data Wrangling on Demographic and Health Survey (DHS) microdata using STATA; synthesized existing literature for background research.
- Presented research findings and methodology at the Colorado State University International Symposium.

PROJECTS

University of Wisconsin-Madison

The Effect of Trade Liberalization on the Environment: Developing vs Developed Countries

Sep – Dec 2023

- Analyzed country-level data using STATA to compare environmental impacts of trade liberalization across developing and developed nations.
- Synthesized relevant academic literature to construct a robust theoretical framework for the study.

The Effect of Crime Rate on Housing Prices: A Case of Wisconsin

Sep – Dec 2023

- Developed reusable data pipelines using Python (Pandas) to merge and wrangle city-level datasets (2018-2022) for scalable analytics.
- Designed descriptive models controlling for time and state fixed effects to isolate crime correlations.
- Generated heat maps and line plots to visualize trends and communicate statistical findings.

Colorado State University

Forecasting Energy Company Stock Prices Before and After COVID-19

Jan – May 2022

- Forecasted weekly energy stock prices using Gretl with Univariate model, Vector Autoregression (VAR) model, and Vector Error Correction Model (VECM).
- Generated visualizations; log differences, correlograms, and forecasting plots using Gretl and Excel.

Analyzing Principal Components of Brain MRIs

Jan – May 2022

- Preprocessed MRI images (with vs. without Glioma tumor) using RStudio and reduced dimensionality with Principal Component Analysis (PCA).
- Leveraged machine learning techniques including Classification (Logistic Regression, LDA, KNN) and Clustering to identify patterns and improve diagnostic accuracy.

Winners and Losers of Climate Change: Assessing Damage Inequalities Using DICE and Their Effect on Procrastination

Aug – Dec 2021

- Led a team of students to assess disparities in climate-induced economic damages by downscaling Nordhaus's DICE model using GDP projections from Burke et al.'s datasets.
- Extensively used Excel and RStudio for country-level data management, analysis, optimization, and visualization.

PUBLICATIONS

- Brundage, B., Bernasek, A., Bhattarai, N., **Thongngam, A.**, Nugroho, W. S. (2025). *WASH and Women's Empowerment in Haiti*. Sustainable Development
- Bernasek, A., Ngyuen, A., Pena, A. A., **Thongngam, A.**, Sedai, A., Brundage, B., Mudenda, L., Bhattarai, N., Shakya, P., Miller, R., Nugroho, W. (2021) *Exploring Economics Empowerment and Marginalization Using Data From Developing Countries*. PAC@REDI: REDI Report

LEADERSHIP AND COMMUNITY ENGAGEMENT

Colorado State University

Co-President of the Economics Student Leadership Council (ESLC)

Feb 2021 – May 2022

- Oversaw administrative operations and facilitated weekly meetings for the student council.
- Collaborated with the Department of Economics to execute programs and events fostering student engagement.

President of Thai Student Association (TSA)

Sep 2020 – Aug 2021

- Fostered an inclusive community culture for Thai and international students through strategic engagement initiatives.
- Partnered with cross-functional teams to manage communication strategy, resulting in increased member engagement and recruitment.

Secretary of Thai Student Association (TSA)

Sep 2019 – Aug 2020

- Maintaining organizational records and documented meeting minutes for the executive board.
- Supported leadership with event planning and logistics for cultural and social events.