Chanuwas Aswamenakul

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SUMMARY

Experienced Behavioral Scientist with a strong background in analyzing data related to company products and services to develop actionable insights and data solutions for various business challenges. Skilled in performing rigorous statistical tests to validate findings and presenting results in a clear and impactful manner.

EDUCATION

PhD in Cognitive and Information Sciences 2021-present
University of California, Merced

MS in Computer Science 2016-2018
University of Southern California

TECHNICAL SKILLS

Programming Languages: SQL, R (tidyverse), Python (NumPy, pandas, TensorFlow, Keras, scikit-learn, XGboost, NLTK)

Machine Learning Techniques: Deep Learning, Natural Language Processing (NLP), Image Processing, Classification, Decision Trees, Random Forest, Clustering, Principal Component Analysis (PCA)

Statistics Analysis: Hypothesis Testing, A/B Testing, Mixed-Effect Models, Time Series Analysis, Logistic Regression, Bayesian Statistics

Data Engineering: ETL Processes, API Connections

Data Visualization: Tableau, Plotly, ggplot2, Matplotlib

Cloud Platforms: AWS, Google Cloud Platform

WORK EXPERIENCE

Research Scientist August 2021 – Present
University of California, Merced *Merced, CA*
- Conducted primary research and literature reviews on various interdisciplinary research topics.
- Collected, cleaned, and analyzed large datasets from research studies, ensuring data integrity and accuracy.
- Maintained and documented reproducible data workflows to enhance project transparency and replicability.
- Utilized R and Python to build computational models, statistical models, and visualizations from observational data.
- Presented research findings to diverse audiences.

Data Scientist January 2019 – June 2021
Siametrics Consulting *Bangkok, Thailand*
- Developed an end-to-end analytics pipeline using R, Python, and SQL.
- Performed hypothesis testing, causal analysis, and predictive modeling.
- Collaborated with clients to elicit clients' needs and developed data solutions to address business problems.
- Trained junior team members by developing onboarding documents and supervising a machine learning project.
- Built live interactive dashboards using Tableau to facilitate strategic decision-making.

SAMPLE PROJECTS

SKU-level Sales Forecast using Machine Learning: Implemented predictive models to forecast product sales (at the SKU level) to inform discount strategy. Leveraged Python clustering algorithms to identify products and store branches with similar characteristics to help predict future sales. Improved predictive accuracy by 30% from previous heuristics.

Consumer Profiling using Spatial Analysis: Created a data analytic demo to profile and categorize consumers by leveraging their sparse location data. Consumers were categorized by matching their locations to various commercial areas and clustering them using their traversal trajectories. This project was an initiative to further help inform product marketing and advertisements.

Root Cause Analysis for Air Pollution in Bangkok: Leveraged statistical techniques and geospatial analysis to conduct a comprehensive investigation into the rise of PM2.5 — an aerosol particulate matter that causes respiratory issues. Identified underlying sources of PM2.5 and the degrees to which each source contributes to air pollution. This project provided policy makers with actionable recommendations to mitigate air pollution in Thailand.

Intervention Evaluation for Traffic Accidents: Performed geospatial analysis and statistical analysis using Econometrics techniques to investigate into traffic accidents in Bangkok and potential intervention to mitigate them. Identified locations with high-risk of traffic accidents and quantified the effectiveness of traffic stops. This project provided federal agency with actionable recommendations to reduce traffice accidents in Bangkok.

Causal Analysis mini-Workshop: Led a 3-day workshop for incorporating causal analysis techniques in addition to Econometrics for a data consulting team. Introduced Directed Acyclic Graph (DAG) framework derived from Do-Calculus to contrast with Econometrics techniques that would help improve causal analysis in business context. Contextualized analysis techniques using cost-benefit analysis to create actionable recommendations and impact in business context.