

# Adriel Ong

## Curriculum Vitae

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### CONSULTANCY WORK

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WIP	<i>Intelligent Transportation System Consulting</i> Gave consulting, traffic study, and seminar for traffic and transport economics in a city with more than one million population in the Philippines.
WIP	<i>Mall Inventory Optimization</i> Performed Stochastic Inventory Control for a mall chain in the Philippines.
WIP	<i>Banking Sector Business Intelligence</i> Estimated several models regarding financial institutions, including Markov Chains and regression models.
2021/10	<i>Forecasting Weekly Sales Volumes Transactional Data</i> Implemented a Multilayer Perceptron for forecasting product sales volumes using transactional cashier data.
2021/09	<i>Prey Processing Bout Longitudinal Analysis</i> Performed longitudinal data analysis on shark prey-processing behavior using standard econometric tools for time series and panel data.
2021/08	<i>State Space Model using Kalman Filter for Macroeconomic Forecasting</i> Performed a novel implementation for Kalman filter for credit and macroeconomic data using Python. This implementation was required for analysis of panel data with exogenous control variables with Kalman filtering.
2021/07	<i>Bayesian Distance Clustering in R</i> Implemented a Bayesian Distance Clustering algorithm in R. This implementation required novel code for Hamiltonian Monte Carlo with tensor objects.
2021/06	<i>Traffic forecasting in Software Defined Networking using Deep Learning</i> Performed classification analysis to forecast traffic flowing to Network Protocols.
2021/05	<i>Classification Model for Shark Behavior</i> Performed classification modeling on longitudinal data for shark behavior, with corrections for autocorrelation and multicollinearity.
2021/04	<i>Uncorrelated Capital Asset Pricing Estimation for Multiasset Portfolio</i> Estimated a Capital Asset Pricing Model for a panel of assets with uncorrelated alpha and beta.
2020/10	<i>Cafe Aghora Sales Consultancy</i> Gave consultation for a data science team which analyzed optimal days for sales from Cafe Aghora in Bacolod City.
2020/10	<i>Sta Rita Orphanage Data Engineering</i> Gave consultation for a data science team which performed data engineering for Sta Rita Orphanage in Parañaque City.
2020/07	<i>Alabel Municipal Hall Feasibility Study</i> Prepared a feasibility study on the new municipal hall of Alabel, Sarangani.
2020/05	<i>Outlook on Feeds and Grain Market</i> Prepared an outlook analysis on the domestic markets for feeds and grains.
2020/01	<i>Hotel Feasibility Study</i> Estimated projected profits using quantitative methods on visitor, revenue, and geospatial data.
2020/01	<i>Employee Turnover Analysis</i> Crafted a survey to record key variables and performed statistical analysis to determine which variables affected the probability of turnover.
2019/11	<i>Firm Profitability Analysis</i> Obtained company time-series data on employee productivity and performed market research to determine their effects on the company's profits.

## WORKING PAPERS

### EMPIRICAL

MSR WORKING PAPER SERIES	2021/05	<i>Developing a Provincial Destination Choice Model of the Philippines</i> Developed a model assigning weights to factors affecting domestic traveller choice of provincial destination in the Philippines.
MSR WORKING PAPER SERIES	2021/05	<i>Historical Climate Factors and Rice Prices in the Philippines</i> A paper analyzing how rice prices in the Philippines have responded to historical climate factors.

## CASE STUDIES

### TRANSPORTATION

2019/03	<i>Route Assignment for Travel between Metro Manila Central Business Districts</i> Determined optimal route assignments for travelers between Makati, Ortigas, and Bonifacio Global City using linear programming methods.
2018/12	<i>Mode Choice Analysis of New York City</i> Undertook mode choice analysis of passenger behavior in New York City using 2017 data.
2018/08	<i>Estimation of the Lane-Mile Elasticity of Metro Manila Traffic</i> Estimated the magnitude of effect of road size and expansions on traffic in Metro Manila in the Philippines using linear regression methods.

### MISCELLANEOUS

2019/03	<i>Is the Filipino Worker Ready for Industry 4.0? An Empirical Analysis</i> Performed classification analysis of factors predisposing the Filipino labor market to choices of occupation.
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## COURSES TAUGHT

### M&S RESEARCH HUB

<i>Applied Econometrics</i> A program for training in Econometric Theory.
<i>Progmometrics</i> A program for training in practical Econometrics using R and Python.
<i>Introductory Machine Learning Theory and Practice</i> Intensive training on the fundamentals of Machine Learning for econometric modeling and data analysis using Julia.
<i>Bayesian Inference for Data Science and Research</i> Introductory training for Bayesian inference theory and applications to statistical inference and regression analysis.
<i>Theoretical Foundations of CGE Modelling</i> Training for Computable General Equilibrium models with GAMS.
<i>Recommended course by the GAMS Institute.</i>
<i>Bayesian SVAR and Regime Switching Models Using R and STATA</i> Special training for the theory and practice of Structural Vector Autoregressions, Bayesian Inference, and Regime Switching Models with R and Stata.

## POSITIONS HELD

2020/03–Present	Chief Statistician, DATSTAT Consulting Balibago, Angeles, Philippines
2020/11–2022/12	Academic Council, M&S Research Hub Kassel, Germany
E-mail:	ong@ms-researchhub.com
2019/08–Present	Data Analyst and Software Developer, ACOng Consulting Inc Makati, Philippines

## SOFTWARE DEVELOPMENT

WIP	<i>Project Management and Monitoring Pipeline Software (PMMPS)</i> Built a data pipeline that facilitates project management and monitoring for consultancy firms.
2021/09	<i>PanelKalmanFilter</i> Developed a Python Package for Kalman Filtering of Panel Data.

## FORMATION

2024/09	Master of Science in MATHEMATICS (in-progress) Open University, United Kingdom
2019/12	Bachelor of Science in APPLIED ECONOMICS, Major in INDUSTRIAL ECONOMICS De La Salle University, Philippines Thesis: "Developing a Provincial Destination Choice Model of the Philippines" Advisor: Lawrence B. Dacuycuy cGPA: 3.193/4.0

## LANGUAGES

ENGLISH:	Mother Tongue
TAGALOG:	Fluent
KAPAMPANGAN:	Intermediate
LATIN:	Ecclesiastical Usage

## PROGRAMMING LANGUAGES

Intermediate:	Python, R, Julia, C#, $\text{\LaTeX}$ , HTML, CSS
Software Packages:	Statsmodels, PYMC3, Sckit-Learn, Theano
Operating Systems Used:	Ubuntu, Manjaro, ArtixLinux
Other Software Used:	SageMath, Stata, GAMS, OnlyOffice

## INTERESTS AND ACTIVITIES

Concentrations:	Mathematics, Statistics, Economics
Main Fields:	Probability Theory, Stochastic Processes, Regression Analysis, Transportation Research, Decision Theory
Incidental Interests:	Aristotelian Philosophy, Medieval Social and Economic History

## REFERENCES

Lawrence B. Dacuycuy	lawrence.dacuycuy@dlsu.edu.ph
Marites Tiongco	marites.tiongco@dlsu.edu.ph
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