Hans Jarett J. Ong

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Education

Nara Institute of Science and Technology
D.Sc., Information Science   *2023 – Present*
Ongoing

University of the Philippines Diliman
M.Eng., Artificial Intelligence   *2022 – 2023*
Partial Completion

Ateneo de Manila University
B.S., Physics, Cum Laude   *2014 – 2019*
Minor in Data Science and Analytics Enterprise Systems

Research Experience

Nippon Telegraph and Telephone, R&D   **Japan**
Research Collaborator   *Aug 2024 – Present*
- worked on a project titled "Few-shot Differentiable Bayesian Causal Discovery with Unknown Interventions"
- delivered a presentation summarizing the project's outcomes and potential impact to a panel of experts

Mobility Fundamentals Mathematics Research
by Kyoto University & Toyota Motor Corporation   **Japan**
Research Collaborator   *Oct 2023 – Present*
- conducted research in causality, focusing on causal discovery
- authored one preprint currently under review for publication
- presented findings at International Conference on Neural Information Processing (ICONIP) 2024 with proceedings published

Nara Institute of Science and Technology   **Nara, Japan**
Research Intern   *Jan 2023*
- explored a novel causal discovery technique that determines the causal structure in the presence of unobserved confounders

Manila Observatory – Remote Sensing Group
Undergraduate Researcher   *2016 – 2019*
- characterized aerosols using AERONET sun photometer optical measurements
- calibrated and validated MISR and MODIS satellite data using sun photometer measurements

Presentations

Japan Geoscience Union   **Chiba, Japan**
Oral Presentation   *May 2018*
Title: "Aerosol Types from 25 Southeast Asian AERONET sites obtained using specified clustering and Mahalanobis distance"

American Geophysical Union   **San Francisco, California**
Oral Presentation   *Dec 2016*

Title: "Determination of Monthly Aerosol Types in Manila Observatory and Notre Dame of Marbel University from AERONET measurements"

Professional Experience

Bank of the Philippine Islands

Senior Data Scientist   *May 2022 – September 2023*

- developed an investment propensity model that enhanced campaign targeting, resulting in a notable 22% increase in assets under management (AUM) invested, surpassing previous campaign performance.
- designed a customer lifetime value (CLV) metric that captured both current and potential customer value.
- engineered a recommender system that uses customer profiles, life stage, and financial needs to recommend tailored investment funds.

Optum Labs (UnitedHealth Group R&D)

Data Scientist, AI Engineering Team   *Jan 2020 – April 2022*

- created several reusable data analysis tools which automated data cleaning, feature selection, feature engineering, analysis, and report generation
- developed internal SQL and report generation packages (in Python) complete with documentation and unit testing which became widely used for projects within the department
- conducted analyses and developed models for several health focus areas (e.g. maternal and infant health, ovarian and breast cancer, diabetes and obesity, etc.)

BPI-UHG Data Science (BUDS) Training Program

Data Scientist Apprentice   *Jul 2019 – Dec 2019*

- participated in a 6-month intensive data science training program that taught both theoretical foundations and practical applications of data science in healthcare and finance

Awards and Certifications

Scholarships and Grants

Monbukagakusho Scholarship   Japan
MEXT Scholarship   *2023 – 2026*

American Geophysical Union   San Francisco, California
Student Travel Grant, US$1,000   *Dec 2016*
Travel grant awarded to students with promising research.

Ateneo de Manila University   Philippines
Director's List Scholarship   *2014 – 2019*
Scholarship awarded to top 200 applicants.

Professional Certifications

John Snow Labs
Certified Spark NLP Data Scientist   *Jan 2022 – No Expiration Date*

Udemy
Interactive Python Dashboards with Plotly and Dash   *Aug 2020 – No Expiration Date*

Skills

Programming

- **Python**: jupyter, pandas, sklearn, PyTorch, OOP, package development, unit testing, etc.
- **R**: R Markdown, R Shiny, etc.

- **Miscellaneous**: SQL, Git/Github, MATLAB, C/C++, LaTeX

Analytics

- **Statistics and ML**: random forests, gradient boosting, neural networks, dimensionality reduction (PCA), power analysis, generalized linear models, SVM, propensity score matching, structural causal models, etc.
- **Deep Learning**: familiar with state-of-the-art models for image and natural language processing, e.g., AlexNet, VGG, ResNet, DenseNet, ELMo, BERT, T5, GPT, etc.