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Francis Emmanuel Calingo

Aspiring Geospatial Data Scientist

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Over 6 years of experience in quantitative and qualitative data analysis of multi-sectoral datasets of varying sizes, including demographic and socioeconomic data, and data related to migration patterns.

SKILLS

| | |
|-------------------------------------|--------------------------------------------------------------------------------------------------------|
| Data analysis & Database | Python (Pandas, NumPy); R (dplyr, ggplot2); SQL; Tableau; MS Excel; Google Sheets |
| Spatial Analysis & Maps | ArcGIS (Pro, StoryMaps); QGIS; Python (Folium, GeoPandas); R (sf) |
| Data Visualization | Matplotlib; Seaborn; Plotly; Geopandas; ggplot2; Shiny; Tableau |
| Statistical Knowledge | Exploratory data analysis; probability distribution; hypothesis testing; correlations |
| Other Skills | LaTeX; Git; Quantitative and qualitative research methodologies; presenting to non-technical audiences |

TECHNICAL EXPERIENCE

Object Detection Model Assistant (Geospatial App)

April 2025 — July 2025

M2M Tech

Greater Vancouver, BC (Remote)

- Collaborated in a 19-member team to build a deployment pipeline for an object detection model supporting a client company's geospatial capabilities in environmental disaster mitigation.
- Automated large-scale image processing and labelling using Python, PowerShell, and the Label Studio API, improving efficiency and scalability while maintaining well-documented workflows.

Monitoring Agent-Media Sentiment Analysis

August 2024 — June 2025

Elections Canada

Gatineau, QC (Telework)

- Conducts weekly comprehensive sentiment analysis of over 5,000 social and traditional media comments across 38 platforms, utilizing dashboards to present insights which contribute to high-level research on democracy.
- Supervised a special research project on the Filipino Canadian community and their media presence, resulting in Tagalog becoming the 9th most monitored non-official language during the election period.

Site Auditor-Financial Data & Reporting

August 2022 — August 2024

Great Canadian Casino Resort

Toronto, ON

- Processed, cleaned, and analyzed data from over 6,000 daily financial transactions via Excel, providing analytical reports to executives and external auditors via Outlook and MS Teams.
- Spearheaded data processing improvements such as alternative Excel formulas that reduced completion time by up to 33%, optimizing workflows, organizing documentation efforts, and maintaining data integrity.

Math Instructor

August 2021 — August 2022

Mathnasium Canada

Toronto, ON

- Provided math-related and tailored academic support to up to 12 students per shift from a wide variety of grades and topics, using verbal, visual, and other techniques to explain complex topics.
- Oversaw improvements in many students' grades over the course of the year, ranging from a 10-25

PASS Academic Peer Leader

May 2019 — May 2020

York University

Toronto, ON

- Facilitated weekly study sessions for calculus courses, adapting instructional strategies based on attendance data, course literature, and session participants' diverse learning pace to improve student participation by 300%.
- Promoted the PASS academic program through various means such as conducting five in-class announcements, weekly dissemination of posters, daily email correspondence, and leading of academic tour groups.

Parliamentary Intern

May 2019 — June 2019

House of Commons of Canada

Ottawa, ON

- Provided administrative data support for MP Francesco Sorbara's office (i.e., creating and organizing multiple, email correspondence with over 100 MPs, attending House Finance Committee meetings, answering calls).
- Successfully argued for the internship's permanence and impact, leading to the creation of the FilCan internship program several years later.

Front End Associate-Lot, Cash, Inventory

September 2017 — August 2022

House of Commons of Canada

Ottawa, ON

- Maintained the cleanliness of the parking lot while providing data support in inventory tracking, cash counting, and customer order completions.
- Processed up to 75 POS transactions, 5 customer orders, and 10 loading requests per shift.

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EDUCATION

- Master of Arts, Human Geography | York University, Toronto, ON** **Starting September 2025**
Honours Bachelor of Science, Applied Mathematics and Statistics | York University, Toronto, ON **June 2022**
- **Final Year GPA (Undergrad):** B+ | 7.0/9.0
 - **Sample relevant coursework:**
 - **Quantitative Analysis:** Mathematical Statistics I (B); Applied Categorical Data Analysis (A)
 - **Modelling and Programming:** Computational Mathematics and Statistics (B+); Mathematical Modelling (A)
 - **Socioeconomics and Social Sciences:** Introduction to Microeconomics (A); The Global South and Human Rights (A); Reasoning About Social Issues (A); Sociology of Sport (A)
 - **Other Quantitative Courses:** Linear Algebra I (A); Differential Calculus (A); Integral Calculus (B+); Differential Equations (B+); Partial Differential Equations (A)
 - **Activities:** Orientation Week Leader (2016-2018); Filipino Student's Association at York (FSAY) Outreach Lead (2016-19); Peer Tutor (2017-18)
 - **Awards:** \$1500 York University Entrance Scholarship (2015), FSAY Executive of the Year (2019)
- Certificate Program, Data Science | University of Waterloo, Remote** **April 2025**
- **Coursework:** Foundational Data Science (92%); Statistics for Data Science (93%); Machine Learning (84%); Big Data Management Systems & Tools (94%)
- Certificate, French As A Second Language (Explore Program | La Cité collégiale, Ottawa, ON** **July 2022**
- **Courses Taken:** French as Second Language: 86%

UPSKILLING & SUPPLEMENTARY EDUCATION

- Professional Certificate, Data Science | IBM, Remote** **March 2025**
- **Topics Covered:** Data Analysis, Data Visualization, Data Methodology, Databases & SQL, Generative AI
- DataTalent Upskilling Program | M2M Tech, Remote** **February 2025**
- **Topics Covered:** Data Analysis & Visualization (Pandas, NumPy, Bokeh), Machine Learning (Classification, Clustering, Regression)
- Specialization, GIS, Mapping, and Spatial Analysis | University of Toronto, Remote** **January 2025**
- **Topics Covered:** GIS Data Acquisition and Map Design, Spatial Analysis and Satellite Imagery in a GIS

SELECTED PROJECTS

- Elections Canada Demographic Projects ([Link](#))** **MS Excel, R**
Conducted statistical, correlation, and geospatial analysis on Filipino Canadian settlement and socioeconomic trends, with findings justifying the agency's need for more Filipino-centred resources for Maritime and francophone regions.
- 2025 National Mental Health Datathon Project Entry ([Link](#))** **MS Excel, Oracle DB, NextCloud**
Queried over 1 million records of proprietary mental health and demographic data from 10 datasets in a team of 7, feeding processed data to Tableau and maintaining documentation to present insights for institutions (e.g., CMHA).
- Visualizing Migration in Canada ([Link](#))** **MS Excel, Python**
Extracted and analyzed migration and other demographic data from Statistics Canada, creating interactive graphs and a choropleth map to present data visualizations that could influence policy decisions such as the location of consulates.
- Mapping the Decline of Regional Languages in the Philippines ([Link](#))** **ArcGIS StoryMaps, MS Excel**
Created an interactive map that visualizes the geographic locations of endangered languages in the Philippines, scraping data from Ethnologue and leveraging skills acquired from the GIS, Mapping, and Spatial Analysis Specialization.
- Subnational Socioeconomic Analysis of Canadian Census Data ([Link](#))** **R, MS Excel**
Developed statistical models based on 2016 Canadian Census data to explore causal relationships of socioeconomic variables, providing evidence that increased educational accessibility and poverty mitigates out-migration.

COMMUNITY LEADERSHIP

Community Leadership in Filipino Youth Organizations

2016 — Present

- Led data-driven initiatives such as quantitative analyses, which contributed to an 800% increase in FSAY's membership and Filipino Canadian Students Association's (FILCASA's) expansion to 23 member organizations.
- Conducted research on socioeconomic data, which contributed to a record 300 registrations at the 2021 Pinoys on Parliament Conference and Anakbayan's educational workshop series "Realities of Filipino Migration".

Peer Tutor, Bethune College, York University

2017 — 2018

- Hosted free weekly tutoring sessions for students taking courses in linear algebra and statistics topics, tutoring up to 5 students per week and adjusting my communication strategies to cater to different learning abilities.
- Vigorously promoted the peer tutoring programme through various means (e.g., in-class announcements, dissemination of posters and social media posts, email correspondence, verbal promotion at club events).

CONFERENCE & SUMMIT EXPERIENCE

Racial Justice Toronto Summit 2024

2024

Urban Alliance of Race Relations

Toronto, ON

- Engaged in constructive discussions regarding racial equity in education, community safety, and poverty reduction with municipal-level policy professionals and community organizers.
- Conducted social investigation and class analysis of participants and the event itself, incorporating it into a report-back document for Anakbayan Toronto.

Kapwa Rising Anti-Racism Community Conference

2024

Kabangka

Toronto, ON

- The very first anti-racism conference hosted by Kabangka, a non-profit Filipino/a/x Canadian youth organization that also hosts the annual Pinoys on Parliament national youth conference.
- Engaged in open discussions regarding how the Filipino/a/x Canadians can advocate for meaningful changes at a public policy level, and connected with several professionals, including York PhD candidates.

Pinoys on Parliament National Youth Conference

2019—2024

Kabangka

Ottawa, ON & Remote

- Actively participated in large-scale conferences (as a delegate, director, and/or committee member) focusing on policy issues affecting Filipino Canadians, as well as networked with academics, professionals, and researchers.
- Leveraged Google Workspace to contact over 2000 organizations, schedule workshops, delegate tasks, organize over 500 documents (in English, French, and Tagalog), and increase weekly email production by 400

2022 Mathematics Winter Conference

2022

Canadian Mathematics Society

Toronto, ON

- Actively participated in graduate student-led sessions at the largest mathematics conference in Canada.

LANGUAGE PROFICIENCY

- **English;** C2 (Reading) | C2 (Writing) | C2 (Speaking) | C2 (Listening)
- **French;** B1 (Reading) | B1 (Writing) | B1 (Speaking) | B1 (Listening)
- **Tagalog;** B1 (Reading) | B1 (Writing) | B1 (Speaking) | B1 (Listening)
- **Ilocano;** B1 (Reading) | B1 (Writing) | B1 (Speaking) | B1 (Listening)

REFERENCE

Academic References

- **Mr. Andrew Skelton;** Assistant Professor, York University – Department of Mathematics and Statistics | askelton@yorku.ca
- **Mr. Georges Monette;** Professor, York University – Department of Mathematics and Statistics | georges@yorku.ca
- **Mr. Jude Kong;** Assistant Professor, University of Toronto – Dalla Lana School of Public Health | jude.kong@utoronto.ca

Professional References

- **Mr. Alexander Wreford;** Senior Data Analyst, Elections Canada | alecwreford@gmail.com
- **Mr. Giancarlo Mora;** Audit Manager, Great Canadian Casino Resort Toronto | giancarlo.mora@greatcanadian.com
- **Ms. Karla Atanacio;** Regional Affairs and Communications Advisor—Prairies & North, Office of the Minister of Intergovernmental Affairs and Finance | atanacio.karla@gmail.com