Lina Berbesi

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# Profile

**Data & Insights Analyst | MSc Statistics| Regression, time series and complex surveys expert**

* Over 3 years’ experience in modelling and data analytics in the New Zealand public sector. Plus, two years of experience in the New Zealand private sector.
* Demonstrated experience developing, implementing, and [publishing](https://www.mdpi.com/1996-1073/16/4/1929) econometric and statistical models.
* Familiar with working in multi-disciplinary groups across agencies, Statistics New Zealand, Ministry of Primary Industries, Land and Information New Zealand, between others.
* Proven expertise in complex surveys, time series and regression models in both public and private sectors.
* Helping agencies to produce and provide fit-for-purpose and timely evidence and insights that supports robust evidence-based decision making.

# Career Summary

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| **Analyst Data, Insights, and Intelligence - MBIE** | **Sep 2023 - Now** |
| **Design Analyst Response Management – Stats Nz** | **Jul 2022 – Jun 2023** |
| **Statistical Design Analyst Statistical Methods – Stats Nz** | **Mar 2021 – Jul 2022** |
| Associate consultant Ivanov Consulting | Sep 2019 – Nov 2019 |
| Risk Analyst Westpac | Aug 2017 – Jul 2019 |
| Risk Analyst Citibank | Apr 2015 – Mar 2017 |
| System Analyst Citibank | Jan 2014 – Apr 2015 |

# Selected Roles, Responsibilities & Achievements

**Analyst** – Data, Insights, and Intelligence (DDI) - MBI

*Data management and analysis including solving complex problems with efficient and reproducible analytics, statistical modelling, data visualization, inference, and forecasting in domains such as complex surveys and time series.*

* Responsible for the development of a new forecasting and allocation methodology for the [MTAGDP model](https://www.mbie.govt.nz/business-and-employment/economic-development/regional-economic-development/modelled-territorial-authority-gross-domestic-product/mtagdp-methodology). This is a model that extends Statistics New Zealand's Regional GDP series, an official Tier 1 statistic, to Territorial Authorities for better understanding of local economies and industries using returns to labour (wages and salaries).
* [Regional Economic Activity tool](https://webrear.mbie.govt.nz/summary/new-zealand) monthly updates and new module additions on agriculture, energy, and vehicles.
* Topic modeling on a survey done for the Agritech Industry Transformation Plan using Latent Dirichlet allocation through text mining.
* Gravity Models for modelling regional trade using GDP. A gravity model provides an estimate of the volume of flows, goods, and services between two or more locations. Gravity models supply an intuitive framework to understand the determinants of flows between regions, in particular: trade, migration, or capital. [On-going piece of work]

**Design Analyst** – Response Management – Stats Nz

*Responsible for researching, designing, and implementing a range of innovative statistical, data and analytical solutions to support the national collection operation for Census 2023. Working across different teams: Statistical Infrastructure, Statistical Location Register and Census Methods & Design to ensure Census 2023 carries out with the best possible data in terms of dwellings and responses.*

* Hierarchical clustering to identify non-response and partial response dwellings. Hierarchical clustering was a powerful technique used to uncover patterns in the non-response residential dwellings data.
* Random forest modelling for both classification and regression tasks around non-classified building consents.
* Web Scraping of camping sites and hut’s capacity data. In this case web scrapping was used to access public data that lived in more than a single domain (multiple web pages) and it was later the input for both insights and modelling.
* Implementation of API tracking of census responses to track response rate and vendors performance (such as TIMG – Digitalization vendor of paper surveys).

**Statistical and Data Analyst** – Statistical Methods – Stats Nz

*Responsible for leading the production of statistical and data products and services for Stats Nz customers, working across a range of subject matter areas and customized data sets. Accountable for analyzing data and drawing appropriate interpretations and conclusions.*

* Update and extend on Emily Shrosbree’s research about ‘Comparing education and training information in administrative data sources and census’.
* Over-coverage modelling for the Administrative Population Census – APC using Bayesian trees and Stan with a hierarchical Logistic Regression model. The APC was a part of Stats NZ’s census transformation program, which explored the use of administrative data to produce census information.
* Adaptative collection response propensity likelihood modelling for the data sourcing Stats Nz project to introduce multi-response options and develop a better understanding of where to place the collection effort.

# Education

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| Master of Science MSc - Statistics Auckland University | Sep 2019 – Jul 2020 |
| Postgraduate degree in Applied Mathematics Universidad Sergio Arboleda | Jan 2015 – Dec 2015 |
| Bachelor in engineering Universidad Javeriana | Jan 2009 – Dec 2014 |

# Additional Information

**Referees:** Available on request