JUSTIN GRIMA
PRINCIPAL DATA SCIENTIST

CONTACT

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Brisbane, Australia
Possess both Canadian & European Union (Polish) citizenships & hold work authorization for Canada, Europe, & Australia. Open to relocating to the USA and flexible to remote, hybrid, or in-person job opportunities.
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Projects: https://github.com/JustinGrima?tab=repositories

EDUCATION

JAMES COOK UNIVERSITY
Master of Data Science
2022 - 2024

- Graduated with high distinction.
- Intensive coursework in the fundamental concepts and tools used in data science, including **Data Mining**, **Data Engineering**, **Statistics**, **Machine Learning, Artificial Neural Networks** and **AWS.**
- Practical training in industry-standard software and programming languages such as **SAS**, **Python**, **R**, **SQL**, and **Tableau** to collect, analyze, and visualize data effectively.
- Emphasis on critical thinking and problem-solving skills, including the ability to apply data-driven approaches to real-world business challenges.

WILFRID LAURIER UNIVERSITY
General Bachelors of Science
2010 - 2014

- 4 years of laboratory experience (undergraduate): experimental work, analysis, and report writing.
- Volunteer with ESKA Water business seminar series.

COURSES

- **AWS /** AWS Academy Machine Learning Foundations - February 2024
- **AWS /** AWS Academy Cloud Foundations - February 2024
- **Python**/ The Complete Python Bootcamp From Zero to Hero in Python - July 2023
- **SAS**/ Specialisation in Advanced Data Science - June 2023
- TESOL International Association/ Advanced Training for Teaching English Online - December 2018
- PADI/ Open Water Course - January 2016
- i-to-i TEFL/ Teaching English as A Foreign Language - August 2015

Principal Data Scientist with expertise in GHG emissions modelling, climate policy analysis, and advanced analytics. Lead whole-of-state projections and scenario development to support Queensland's Net Zero by 2050, delivering actionable insights that inform strategy and high-level decision-making. Skilled in communicating complex technical findings to diverse stakeholders and aligning analytical outputs with policy and operational goals. Proficient in Python, R, SQL, and Power BI, with hands-on experience in data engineering, machine learning, and predictive modelling. Passionate about turning complex datasets into meaningful insights that drive real-world impact. Known for adaptability, initiative, and a collaborative approach in fast-paced, evolving environments. Actively developing cloud-based AI/ML skills and familiar with production-focused tools and practices aligned with platforms like Azure ML.

WORK EXPERIENCE

Queensland Government (Queensland Treasury and Department of Energy and Climate) — September 2024 - Current

Principal Data Scientist

Queensland Treasury (January 2025 – Current)

- Lead Queensland's Whole of State GHG emissions model, standardizing outputs across sectors, aligning assumptions and formatting, and integrating multiple abatement scenarios to produce comprehensive projections to 2050.
- Drive emissions modelling for the Built Environment sector, covering Scope 1 and 2 emissions, scenario analysis, and long-term projections aligned with Queensland's Net Zero targets.
- Model Industry Waste emissions and support cross-sector modelling efforts as needed.
- Deliver technical support for the Energy Runway initiative, providing ad hoc outputs and insights for strategic decision-making.
- Design Power BI dashboards and decision support tools to visualize emissions and explore abatement scenarios across sectors.
- Support scientific research, policy analysis, data engineering, and reporting to track Queensland's Net Zero progress.
- Represent Queensland Treasury in inter-agency and stakeholder engagements as a GHG emissions specialist.

Data Scientist

Queensland Treasury (Nov 2024 – December 2024)

- Led emissions modelling for the Built Environment sector, focusing on Scope 1 and 2 emissions, scenario development, and long-term projections aligned with Net Zero by 2050.
- Modelled Scope 1 emissions for Industry Waste, and developed the initial modelling frameworks for the Industry and Resources sectors (covering Oil & Gas, Coal, and Metal Ore Mining), including scenario and abatement pathway development.
- Built and maintained Power BI dashboards to visualize emissions, GSP, and population trends, enhancing strategic insights and stakeholder engagement.
- Conducted emissions projections to 2050 in alignment with Queensland's climate strategy and legislative commitments.
- Prepared reports and delivered actionable modelling insights to inform policy and track progress toward Net Zero objectives.

Department of Energy and Climate (Sep 2024 – Nov 2024)

- Led emissions modelling for the Built Environment sector, including development of hybrid datasets integrating STGGI and AES data.
- Supported modelling for the Waste sector and collaborated with QTC to rank abatement strategies.
- Conducted data cleaning, standardization, and integration of population and energy datasets to improve projection accuracy.
- Represented the department in cross-agency discussions and stakeholder meetings.
- Note: Role transitioned to Queensland Treasury following Machinery of Government (MoG) changes in November 2024.

University of Sydney — February 2024 - October 2024

Research Assistant

- Conducted statistical analyses in RStudio, ensuring MERMAID database compliance and data integrity for global coral reef research.
- Addressed data-related inquiries, supporting the team and resolving data gaps and standard issues.
- Managed data quality assurance, ensuring large dataset accuracy and contributing to key scientific insights on coral reef ecosystem services.

SKILLS

- Python | R | SQL | Power BI | Tableau
- Azure Machine Learning (Azure ML) | Cloud Computing | Databricks
- Machine Learning | Deep Learning | NLP | Scikit-learn | TensorFlow | PyTorch
- Model Deployment | MLOps | CI/CD Pipelines | ETL | Data Engineering
- Model Monitoring & Drift Detection | Data Ethics | Big Data | Statistics & Math
- Agile | Stakeholder Engagement | Git / Azure DevOps

AWARDS

- United Advertising Group
  October 2018
  While working for United Advertising Group I received the "Top 10 sales rep in Australia awarded by Global Interactive Group.
- BK Baun Landscaping
  August 2015
  While working for B.K. Baun Landscaping our team received the "Residential Construction Award of Excellence" and the "Special Interest Construction Award of Excellence by Landscape Ontario

HOBBIES

- Coding
- Research analysis
- Landscaping
- Renovation
- Carpentry
- Travel
- Guitar
- Scuba Diving
- Soccer
- Snowboarding
- Fitness

LANGUAGES

- English (Fluent)
- French (Basics)
- Korean (Basics)
- Polish (Basics)

Australian Research Council (ARC) Centre of Excellence for Coral Reef Studies — JULY 2023 – OCTOBER 2023

Data Scientist

- Conducted statistical analyses in RStudio, ensuring adherence to MERMAID database standards and validating data accuracy for global coral reef research.
- Developed a 'golden data template' for scientists, streamlining the collection process and facilitating accurate integration into the MERMAID coral reef database.
- Addressed data-related inquiries, providing essential support to the project team and resolving issues related to missing data and database standards.
- Managed data quality assurance and validation processes, ensuring the accuracy of extensive datasets, and contributing to the generation of crucial scientific knowledge for coral reef ecosystem services.

SGS — SEPTEMBER 2021 - FEBRUARY 2022

Geochemical Lab Technician

- Offer mineral analytical services to the mining sector, specializing in LECO instrument operation and maintenance.
- Expertly prepare samples for diverse test methods and perform mineral element analyses (e.g., Carbon, Sulfur, Copper Concentration).
- Lead training sessions for employees on LECO instruments, and diverse mineral analysis methods, and manage material inventory.

KEY PROJECTS

Modeling and Projection for Queensland — November 2024 - Present

- Currently **developing models** to **project** Scope 1 and Scope 2 emissions for the Built Environment and Industry waste sub sectors through 2050, supporting Queensland's **Net Zero** by 2050 target.

Power BI Dashboards for Climate Insights — November 2024 - Present

- Designed **interactive dashboards** to visualize emissions, GSP, and population trends, enabling **data-driven decision-making** for stakeholders.

Hybrid Datasets for Emissions Modeling — November 2024

- Mapped and integrated data from STGGI and AES, creating **hybrid datasets** for **GHG modeling**, used as a framework for sector-wide implementation.

Abatement Strategy Rankings — October 2024

- **Collaborated** with QTC to rank **abatement strategies** for the Built Environment, contributing to **emissions reduction** goals.

AI & MACHINE LEARNING PROJECTS

click here to view more of my projects directly from my website

Unearthing Insights: Revolutionizing Soil Image Classification with Advanced CNN Models — February 2024

- Development of ***Convolutional Neural Network (CNN)*** models for soil **image classification**, employing techniques such as **Batch Normalization**, **Dropout**, and **Early Stoppage** to enhance model performance.
- Conducted rigorous **hyperparameter tuning** and evaluation to **optimize CNN architectures**, ultimately achieving superior **classification accuracy** (up to **60.87%**) and demonstrating expertise in **machine learning model development**.
- Can enhance decision-making in agriculture, geology, and engineering, and influencing construction, landscaping, ecosystem health, and agricultural practices.

Solving the Online Job Maze — December 2023

- Developed and deployed **Web Crawlers** to efficiently extract data science job postings from job websites.
- Conducted **text pre-processing** to clean text data and create corpus.
- Explored, implemented, and optimized **NLP** text summarization models, including **TextRank**, **Latent Semantic Analysis** (**LSA**), T5, and **BART**.
- Leveraged **Word2Vec** to aid in crafting a comprehensive list of technical skills in the field of Data Science for trend analysis.
- Implemented **ROUGE evaluation** metrics, assessing unigrams, bigrams, and trigrams using **precision**, **recall**, and **F1 scores**. **TextRank** and **LSA** achieved the highest text **summarization scores**: **precision 1**, **recall 0.86**, and **F1 0.92**.
- Can simplify job posts and identify skill trends, aiding businesses in talent acquisition and market analysis.

Resilience Down Under — October 2023

- Implemented **Ridge** and **Lasso Regression**, **Decision Trees** (**Bagging** and **Random Forest** with **bootstrapping** and **Boosting**), **SVM** with **linear**, **radial**, and **polynomial kernels**, and **Artificial Neural Network** with 1-3 layers, utilizing **Adam**, **ReLU**, and **RMSprop optimizers**. The goal was to predict the unemployment rate in Australia.
- A 2-layer **Artificial Neural Network** with the **RMSprop optimizer** exhibited the best performance, achieving the lowest **Mean Squared Error** (MSE) of **2.33**, **Root Mean Squared Error** (RMSE) of **1.53**, and **Mean Absolute Error** (MAE) of **1.22.**