Mark Asuncion

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Technical Skills

Languages: Python, R, SQL (MySQL), SAS, BASH, HTML/CSS, LaTeX, Java
Software: Git, Power BI, SQL Server Management Studio, Excel, SalesForce, Jupyter Notebooks, RStudio, PyCharm
Libraries: Pandas, NumPy, matplotlib, PyTorch, scikit-learn, Selenium, TidyVerse, ggplot2, R Markdown, R Shiny, Quarto

Education

University of Toronto Sept. 2024 - May 2025 (est.)
Master's of Science in Biostatistics, ***Artificial Intelligence and Data Science Focus***
- Relevant Coursework: Machine Learning, Statistical Programming, Categorical Data Analysis, Bayesian Methods

University of Toronto
Honours Bachelor of Science in Applied Statistics, Minor in Mathematics
- Cumulative GPA - **3.91/4.00 (high distinction)**, recognized on Dean's List **4** times
- Ran weekly tutorials and marked **1000+** assessments for several math and stats courses as a **Teaching Assistant (TA)**
- Relevant Coursework: Regression Analysis, Experimental Design, Neural Networks, Time Series Analysis, Databases

Professional Experience

Machine Learning Researcher Oct. 2024 – Present
Princess Margaret Cancer Centre | Department of Biostatistics *Toronto, ON*
- Leveraging **PyTorch** to implement a **reinforcement learning** model to recommend optimized sleep durations for improved mental health outcomes
- Analyzing **thousands** of observations from high-throughput data in a **UNIX** environment, writing **BASH** scripts to automate data pre-processing, ensuring efficient pipeline operations
- Evaluating the model by comparing recommended sleep durations to baseline scenarios, performing **model tuning** using key metrics like average reduction in depressive symptoms to assess effectiveness

Business Analyst Intern May 2024 – Aug. 2024
Shoppers Drug Mart Specialty Health Network | Business Intelligence and Insights Team *Mississauga, ON*
- Queried for data in **SQL**, pulling from a **SalesForce CRM** housing **millions** of records tied to **Patient Support Programs**
- Utilized **Power BI** to revamp **dashboards** built in **Excel** for **10+** programs, improving management of **data models**
- **Automated** weekly reports of **PAH** patients and their coverage breakdowns in **Python**, reducing turnaround time by **63%**
- Developed internal tool using **Power BI** that dynamically tracked employee bandwidth using **time intelligence**, emphasizing team **KPIs** and reducing planning errors by **22%**

Business Analyst Intern May 2022 – Aug. 2023
Environment and Climate Change Canada | Data Ingest & Product Development Unit *Toronto, ON*
- Collaborated with multidisciplinary teams to interpret and write business documents, facilitating stakeholder communication
- Managed and performed **ad-hoc analysis** on large-scale weather datasets for **15+** clients using **Python** and **Excel**
- Quality assured outputs for **30+** networks across Canada, ensuring data specifications were met for products used globally

Projects & Research

Writing Development Initiative (WDI) | *Python, Pandas, NumPy, Git, Jupyter Notebooks* Jan. 2023 – May 2023
- Collaborated with professors as a **data analyst**, investigating comments left on assignments by TAs to assess quality of feedback
- Employed **thematic analysis** to derive meaningful insights about the writing habits of students, consolidating key observations into a comprehensive report using **Jupyter Notebooks**
- Performed data cleaning and processing using **Python** scripts to parse and **automatically categorize** over **1500** comments, reducing manual assignment by **71%**

Arts-Based Stats Web App | *R, R Shiny, Git* Jan. 2023 – Apr. 2023
https://gmasuncion.shinyapps.io/ArtBasedStatisticsSurveyWebpage/
- Conducted an analysis on student perceptions regarding the efficacy of arts-based methodologies in teaching statistics
- Developed an interactive **data visualization** and analysis tool using **R Shiny** to output the findings of the research
- Created interactive visualizations that allowed users to dynamically manipulate variables, enhancing data comprehension
- Presented the app to an audience of **40+** statisticians at the **Joint Statistical Meetings (JSM)** hosted by ASA

NSERC Undergraduate Student Research Award | *R, TidyVerse, LaTeX* May 2021 – Oct. 2022
https://www.mdpi.com/1099-4300/24/11/1579
- Awarded **1 of 2** prestigious **NSERC (Natural Sciences and Engineering Research Council of Canada)** scholarships in recognition of academic excellence and research potential
- Conducted cutting-edge research under the mentorship of faculty, focusing on **model checking** with right-censored data
- Affirmed the paper's findings by **simulating** algorithms in **R** and building models from **100+** records of cancer data
- Published the research paper in a reputable peer-reviewed journal as a co-author, gathering over **1100** views from users