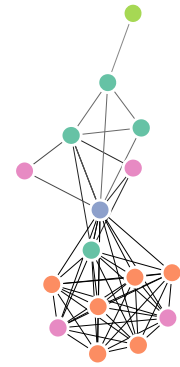


DOUGLAS MACDONALD

I have a deep love and affinity for all things data and computing. My professional career has always been focused on helping others understand their data, streamline their current processes, and provide value to stakeholders.



EDUCATION

2020 2017	M.Phil Quantitative Methods The University of Pennsylvania	📍 Philadelphia, PA
2014 2012	M.S. Experimental Psychology Saint Joseph's University	📍 Philadelphia, PA
	<ul style="list-style-type: none">• Thesis: Emotional Intelligence and Entitlement in the Workplace• Member of Sigma Xi Scientific Research Society (prospective member can only apply if nominated by a current member)	
2013 2009	B.S. Psychology Saint Joseph's University	📍 Philadelphia, PA
	<ul style="list-style-type: none">• Graduated Cum Laude• Dean's List, Spring 2010 – Spring 2014• Presidential Scholarship	

📄 [Download a PDF of this CV](#)

CONTACT

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🐦 [dmac_sci](https://twitter.com/dmac_sci)
🔗 github.com/doug2mac
🌐 douganddata.com
in <https://www.linkedin.com/in/douglas-macdonald-ms-m-phil-11639079/>

INDUSTRY EXPERIENCE

Current 2019	Director for Research and Analytics Development Middle States Commission on Higher Education	📍 Philadelphia, PA
	<ul style="list-style-type: none">• Direct the work and professional development of direct reports. Responsible for assisting with the creation and monitoring of the Analytics and Technology budget. Responsible for assisting in the development and implementation of Technology Plan that impact the ability of the Research and Analytics function to achieve desired goals.• Developed, implemented, and assessed progress in meeting the goals of the Commission's strategic plan for research. Assisted with the rollout of enterprise-wide solutions, and subsequent customization that were needed. Delivered audience-appropriate reports and presentations.• Gathered, analyzed, and integrated, statistical and other pertinent information gathered from multiple sources. Developed and incorporated models into the regular operations of the Research Unit and Organization.	
2019 2017	Senior Analytics Specialist Middle States Commission on Higher Education	📍 Philadelphia, PA
	<ul style="list-style-type: none">• Develop automated data pipelines (extract, transform, and load clean data) leveraging Federally available and proprietary data for use in reports in analyses.	

LANGUAGE SKILLS

R
SQL
PowerBI
Python
Bash
Azure

Made with the R package
[pagedown](#).

Last updated on 2020-10-30.

- Create databases, develop algorithms and statistical models, and perform statistical analyses appropriate to the available data and reporting requirements. Develop dashboards, reports, charts, graphs, and tables displaying the outcomes of analyses for use by internal and external stakeholders.
- Use system reports and analyses to identify potentially problematic data, make corrections, and determine root cause.

2017
|
2016

Lead Decision Science Analyst

Communications Media Inc

📍 Philadelphia, PA

- Directly reported to and collaborated with Wayne Obetz, PhD, VP of Investment Analytics and Decision Sciences, on various company and client initiatives. Conducted statistical analyses and modeling (accomplished within R, and KNIME an open source analytics platform), applied common machine learning (i.e. Random-Forest) techniques to better understand behavioral characteristics of physicians (accomplished within R and KNIME)
- Conducted classification techniques (i.e., CART - Classification and Regression Trees, CHAID, k-means) to produce comprehensive profiles of physicians (accomplished within R and KNIME). Joined and appended new data sets and sources (Prescription information, Sales Rep activity, Sample Request data, etc.) to existing marketing target lists and third party syndicated research (accomplished within R and SPSS). Manipulated, transformed, prepared and staged complex data sets for statistical analyses (extracting key variables of interest, string manipulation, and applied business rules to better define sub-segments of target list) (accomplished within R).
- Managed large database structures (accomplished within R and SQL). Built comprehensive, client ready dashboards in Tableau (a data visualization and analysis tool). Effectively communicated results and implications to internal teams and external clients. Developed clear next steps from resulting analyses. Developed automated data manipulation and analysis scripts and functions (in R and SPSS). Liaison between IQRx and Product Development team to frame and build/QA databases, identify primary keys between data sources, and test possible resolutions to the department's data warehousing needs and requirements

2017
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2017

Application Developer / Data Analyst II

Development and Alumni Relations, University of Pennsylvania

📍 Philadelphia, PA

- Deliver system solutions for business needs involving Development and Alumni Relations software systems, data visualization and query tools (accomplished within R; an open source language and environment for statistical computing and graphics, SQL, Qlikview (data visualization and analysis tool), and Business Objects)
- Design, code, simulate, test, implement and maintain reporting solutions and associated middleware, interfaces and databases in highly complex solutions (accomplished within SQL, R, and Python). Develop predictive models, composed of various complex data sources, to identify those individuals likely to make a large contribution to the University, new donors, and donor retention (accomplished within R (data transformation, modeling) SQL (data cleansing, aggregation)). Develop high level summary reporting dashboards for internal and external use (accomplished within R (Markdown), and Qlikview)
- Analyze functional requirements and advise users in the planning, selection, implementation and use of solutions to address business

requirements. Advise the planning, implementation, measurement, and analysis of success of giving campaigns. Ensure adherence to technical, quality assurance, data integrity, and security standards. Plan, organize, and manage projects and associated schedules and budgets.

2015
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2014

Campaign Analyst

Communications Media Inc

📍 Philadelphia, PA

- Lead analyst for all Business Intelligence efforts for IQRx (Analytics Department). Provided statistical analysis and modeling of doctor behavioral data and the resulting growth in script writing behavior (data was cleaned, manipulated, joined and analyzed within R). Built-out reporting dashboards (visualized in Tableau) and was responsible for organizing and scheduling all data.
- Responsible for the campaign management, reporting/insights, analysis and data-feed for 31 brands across five clients spanning different therapeutic markets and conditions. Company Trainer for Tableau and Tableau Doctor (internal Tableau troubleshooting team). Utilize behavioral data from our proprietary doctor list to plan, track, and validate our media efforts.
- Spear-headed statistical analyses for custom engaged user segments to validate marketing techniques. Developed and provided insights, analysis, and reporting for all assigned clients. Partnered with VP of Product Development to automate cost-actualization processes that were provided as a data-feed for external clients. As well as data-transformation for individual level data received from publishers (processes automated using Java).



SELECTED PRESENTATIONS

2020
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2020

NJAIR Annual Conference

Newark, NJ

- Vice President and Chief Information Officer Dr. Allen Richman, Lead Vice President Dr. Ellie Fogarty, and Director for Research and Analytics Development Douglas MacDonald recorded a session that included an overview of MSCHE, the market of higher education, and measuring economic sustainability at higher education institutions. Following release of the video on July 8, the group held a one-hour live Q&A two days later.
- <https://www.msche.org/2020/07/15/njair-digital-conference-includes-msche-staff-on-use-of-data/>

I am passionate about presenting and educating others. No topic is too complex if the teacher is empathetic and willing to think about new methods of approaching task.

2020
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2020

Surviving COVID-19 with a Performance Based Strategic Plan

Philadelphia, PA

- Providing evidence as to whether or not an institution is achieving its mission is crucial for students, parents, and stakeholders across higher education, and is central to MSCHE standards. The COVID-19 pandemic and its impact on higher education only strengthens the need to reassure constituents that an institution is able to achieve its mission even in these unprecedented times. This webinar will draw on the

experience of the Community College of Beaver County (CCBC) and will help attendees understand processes to develop key performance indicators (KPIs) reflective of clear and simple metrics.

- <https://www.msche.org/event/surviving-covid-19-with-a-performance-based-strategic-plan/>

2019
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2019

Data is Not a Four-Letter Word

Philadelphia, PA

- This workshop is designed for leadership who want to know “how are we doing?” and for staff who need to prepare data for easier reporting and visualization. The historical response to this question, “Things are going great.” is no longer acceptable. We must define “great” using data, established benchmarks, and realistic expectations.
- <https://www.msche.org/2019/05/28/workshop-confirms-data-is-not-a-four-letter-word/>

2018
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2018

A look at Research at MSCHE (NJAIR)

Philadelphia, PA

- This was a workshop that provided members of the New Jersey Association for Institutional Research a glimpse at the various workflows and types of projects that the Research Unit at MSCHE work on.
- <https://www.msche.org/2018/06/05/recent-msche-presentations/>



RESEARCH EXPERIENCE

2014
|
2013

Graduate Research Assistant

Saint Joseph's University

📍 Philadelphia, PA

- Reported to and worked one on one with the Chair of the department. Worked one on one with tenured professors in the Food Marketing Department
- Conducted independent data collection, coding of data, theory development, survey generation, data analysis, and management of large data sets (exceeding 4 million respondents)
- Teaching Assistant for several undergraduate level classes. Required to lecture and present new material

2012
|
2011

Assistant Consultant Support

Applied Psychological Techniques

📍 Darien, CT

- Coded and analyzed data from clients. Literary searches and company profiling. Collaborated with and assisted professionals in the field of Industrial/Organizational Psychology. Worked first hand with Kathleen K. Lundquist, Ph.D, CEO of APTMetrics.
- Read 10-k reports for company profiles. Greatly improved efficiency in Microsoft Word, Excel, Adobe Acrobat Pro



CERTIFICATIONS, SKILLS, AND VOLUNTEER WORK

Data Analytics

Skills

- R for statistical analyses, data management, visualization, and data automation. Python for statistical analyses, data management, and data automation. Database management and development (SQL). SAS. Apache Airflow.

Data Analytics

Certifications

- Tableau 10 Desktop Certified. Member of the Digital Analytics Association (DAA). Member of the Society for Industrial/Organizational Psychology (SIOP). Institutional Animal Care and Use Committee (IACUC) Subjects Training

Volunteer Work and Community Involvement

American Cancer Society: Relay for Life, PCOM Campus

📍 Philadelphia, PA

- I donate to the organization, represented the PCOM Psychology Department, and spread awareness for cancer and cancer research.

Volunteer Work and Community Involvement

Autism Speaks: 1 Mile Walk and Advocacy Event

📍 Philadelphia, PA

- I donate to the organization, participate in the 1 mile walk, and spread awareness for Autism Spectrum Disorder.

Volunteer Work and Community Involvement

National Victim Services Center: Sexual Abuse Awareness 5K

📍 East Norriton, PA

- I donate to the organization, participate in the 5K race, and spread awareness for victims of sexual abuse.

Volunteer Work and Community Involvement

National Mucopolysaccharidoses (MPS) Society: MPS Awareness 5K

📍 Babylon, NY

- I donate to the organization, participate in the 5K race, and spread awareness for individuals suffering from MPS.