



ADITYA TAKWALE

Data Analyst & Full-Stack Developer · PC-02 Indeterminate · Secret Clearance
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Analyst and developer with 9+ years delivering data products and data systems across the federal public service. Designs and builds end-to-end pipelines, Oracle APEX platforms, ML/NLP systems, and cloud-deployed dashboards. Combines a multi-disciplinary background in Neuroscience, Biotechnology, and Computer Science with hands-on government delivery and active use of modern AI tooling for accelerated development.

TECHNICAL SKILLS

Core Stack: Python · SQL · PL/SQL · SAS · JavaScript · R | Pandas · NumPy · Scikit-learn · TensorFlow · Plotly/Dash · Flask · GeoPy · Selenium · Matplotlib · SciPy

Platforms: Oracle APEX · Oracle Cloud · Microsoft Azure · Adobe Experience Manager

AI & LLMs: Uses AI (Claude / OpenAI) daily to expedite the design, prototyping and development of applications and analyses such as NLP pipelines, ML classification models, and general purpose utilities.

WORK EXPERIENCE

Planning Analyst (PC-02, Indeterminate)

Apr 2020 – Present

Environment and Climate Change Canada

- ▶ Designed and delivered an enterprise Oracle APEX monitoring platform end-to-end — replacing a planned external contractor build — covering relational schema design, full application UI, validation logic, UAT, and production rollout.
- ▶ Led a national-scale bibliometric analysis for Canada's Antarctic Treaty (ATCM) submission: multi-source ingestion, ML-assisted research theme classification, manual curation of ~1,000 publication records, and high-quality figure generation in Python and R ; also drafted the initial submission document itself.
- ▶ Built a suite of Python and PowerShell automation tools for operational workflows: ATIP file processing (PDF conversion, naming conventions, duplicate removal), shared-drive management, cloud storage migration, data inventory, and HTML table generation for web publishing.
- ▶ Routinely applies programmatic solutions to tasks others perform manually — from linguistic complexity scoring of web content to automating file structures across network drives.
- ▶ Maintain and enhance the Marine Program Disposal at Sea web presence using Adobe Experience Manager (AEM).

Analyst, Data Services (EC-02, Indeterminate)

Dec 2018 – Feb 2020

Public Service Commission

- ▶ Co-developed a production web dashboard for exploration of public service staffing data with interactive filters (classification, province, department) using Python, Dash, Plotly, Flask, and Pandas.
- ▶ Implemented fuzzy matching and geocoding pipelines to reconcile city names across disparate datasets; optimized spatial matching by minimizing Haversine distance using GeoPy.

Project Services (AS-01, Term)

Mar 2018 – Dec 2018

ESDC – Labour Program

- ▶ Administered the Industrial Relations Information System (IRIS) for the Collective Bargaining & Settlements team; built a programmatic recovery solution for accidental data loss, saving officers substantial re-entry hours (Python, SAS).
- ▶ Maintained and extended a SAS code library for recurring monthly data products; handled complex client data requests.

Junior Researcher (EC-02, Casual)

Sep 2017 – Mar 2018

ESDC – Labour Program

- ▶ Built a web scraper to download, merge, and analyze ~100,000 CSV files from Government of Ontario sources (Python, Selenium, Pywinauto, Pandas).
- ▶ Developed a Python map-infographic tool for Canadian data products; contributed analysis to an ADM briefing on Labour Program database inconsistencies.

Database & Statistical Analyst (FSWEP)

May 2017 – Sep 2017

ESDC – Labour Program

- ▶ Extracted and anonymized LA2000 database data (~450 CSV tables, ~1 GB) for academic research use, preserving structural integrity and producing full technical documentation.

EDUCATION & CERTIFICATIONS

B.Sc. Computer Science · 2015 – Present

Carleton University Algorithms, Databases, OS, Linear Algebra, Statistics, Software Engineering

Machine Learning Engineer Nanodegree · 2015 – 2016

Udacity Deep Learning, Neural Networks, Reinforcement Learning, Model Evaluation

M.Sc. Biotechnology · 2014 – 2015

McGill University Bioinformatics, Gene Cloning, qPCR. Thesis: microglial morphology & CNS inflammation

B.Sc. Combined Honours Neuroscience · 2010 – 2013

Carleton University Senate Medal for Outstanding Academic Achievement

CERTIFICATIONS

[AZ-900](#) Azure Fundamentals

[AI-900](#) Azure AI Fundamentals

[DP-900](#) Azure Data Fundamentals

[PCEP](#) Certified Python Programmer

[ML Nanodegree](#) Udacity

RESEARCH & PUBLICATIONS

McGill University – Centre for Research in Neuroscience (RI-MUHC) · *Sam David Laboratory*

Quantified structural changes in brain microglia in response to bacterial infection (LPS injection, cryostat slicing, immunohistochemistry, confocal microscopy, 3D reconstruction). Computational analysis using Python (Pandas, Matplotlib, NumPy, SciPy).

Publication: [Anderson, W., Greenhalgh, A., Takwale, A., David, S., Vadigepalli, R. \(2017\). Novel influences of IL-10 on CNS inflammation revealed by integrated analyses of cytokine networks and microglial morphology. *Frontiers in Cellular Neuroscience*, 11, Article 233](#)

Carleton University – John Stead Human Genetics Laboratory · *Undergraduate Thesis*

Investigated SNPs in the oxytocin receptor gene (OXTR) and their relationship to gambling addiction via quantitative PCR of DNA extracted from saliva, and statistical correlation with behavioural assessments measuring impulsivity and problem gambling.

ADDITIONAL

Clearance: Government of Canada Secret clearance (active)

Languages: English (native) · French (functional working proficiency)

Interests: Current affairs · history · politics · philosophy · cycling · chess · reading

Portfolio: Live applications and project write-ups at adityatakwale.duckdns.org