

Jai Rana

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SECURITY CLEARANCE: SECRET, LEVEL II

Executive Summary: Data Scientist with hands-on experience in machine learning, predictive modeling, ETL, workflow automation, and stakeholder-driven analytics. Proven ability to transform complex datasets into actionable insights using Python, SQL, Power BI, and Microsoft data technologies. Strong foundation in statistical analysis, data visualization, dimensionality reduction, and data-driven decision making.

SKILLS

Machine Learning (ML) & AI: Classification Models, Predictive Modeling, Convolutional Neural Networks (CNNs), Transformers, Regression Analysis, PCA, ICA, SVD, ZCA

Data Analytics: SQL, ETL, EDA, Statistical Analysis, Data Modeling, Data Visualization

Programming: Python, Java, C++, Database Management, Relational Databases, Object-Oriented Programming, Agile Practices, UML

Behavioural Science: Human-Computer Interaction (HCI), Eye-Tracking, Behavioural Analysis, Cognitive Load & Perception Analysis

Tools: Microsoft Power Automate, Microsoft Power BI, Pandas, Microsoft Excel, Microsoft Power Query, SPSS

EXPERIENCE

Department of National Defence | *Data Scientist* May 2026 - Present

- Identified digital security gaps by architecting analytics dashboards with data preprocessing techniques, structured data models, and cohort-based trend analysis
- Built and delivered end-to-end Power Apps and Power Automate solutions to streamline business processes, automate data workflows, and ensure data privacy, integrity, and accuracy

Tissue Engineering and BioImaging (TEB) Lab | *Research Assistant* January 2026 - Present

- Engineered, trained, and evaluated machine learning and deep neural network architectures, including CNNs and Transformers, for automated bacterial spectral classification and pattern analysis
- Performed data preprocessing and dimensionality reduction using techniques including PCA, ICA, SVD, and ZCA to analyze complex spectral datasets

Shared Services Canada (SSC) | *Business Data Analyst* May 2023 - April 2026

- Designed and implemented ETL pipelines to extract, transform, and load data from multiple sources into SSC's primary database repository, supporting scalable data integration, validation, and analysis
- Built standardized Excel intake forms, data libraries, and SharePoint-based traceability systems to improve data consistency, accuracy, and lineage tracking across reports
- Created interactive dashboards and analytical reports in Microsoft Power BI using Microsoft Power Query and Python for ETL, data modeling, and predictive data transformations across local and online data sources

Christie Lake Kids | *Youth Mentor* October 2025 - June 2026

- Mentored youth through one-on-one support and coordinated inclusive activities through structured planning, organization, and collaborative leadership

OGGN Inc. | *Analyst Intern* September 2020 - December 2021

- Supported development and testing of an in-house assessment product, contributing to requirements analysis and documentation

PROJECTS

Drone Detection Models | *Pytorch, LightGBM, Docker, Optuna, NumPy/SciPy*

- LightGBM and Convolutional Neural Networks (CNN) used to detect the presence of a drone through radio frequency spectral tensors

Fraud Prediction Models | *Matplotlib, Pandas, Random Forest, XGBoost, Scikit-learn*

- Developed predictive fraud detection models using XGBoost and Random Forest, applying ensemble learning techniques to classify fraudulent purchase transactions

EDUCATION

Carleton University

Bachelor of Computer Science, Honours

Graduated April 2026