

Data Analysis and AI Specialist (DAAS).

The Data Analysis and AI Specialist diploma program at triOS is 53 weeks in length with no Internship. Students will gain both theoretical knowledge and hands-on experience to prepare for careers in data science and analytics.

This program covers SQL databases, Python programming, statistics, predictive analytics, and machine learning, along with advanced topics such as computer vision and AI-driven solutions. Students also complete two capstone projects where they apply their skills to real-world datasets, turning raw information into actionable insights for decision-making. In addition to technical training, the curriculum emphasizes ethical considerations in data science, communication, and professional readiness.

Students develop workplace and career preparation skills through dedicated courses in digital literacy, professional networking, and career planning. Graduates are also prepared to pursue the CompTIA DataX certification, adding an industry-recognized credential to their résumé.

Program Benefits

- ✓ Job Placement Assistance
- ✓ Cutting-Edge Tools and Technologies
- ✓ Industry Certifications
- ✓ Qualified instructors

Here's a look at some of the courses included in this program:

Career Readiness and Professional Skills

Student Success Strategies, Digital Literacy for Professionals, Career Planning & Preparation 1 & 2, and Ethics and Communication for Data Science and AI

Applied Data Analysis

Data Analysis with Python, Data Analysis with SQL, Data Visualization, Data Analysis and Visualization Capstone

Core Technical Skills

Introduction to SQL Databases, Introduction to Python Programming, Statistics for Data Analysis

Applied Artificial Intelligence

Predictive Analytics, Machine Learning, Computer Vision, and AI Capstone

Certification Path:



Employment and Wage Outlook for Careers in this field:



Employment Rate based on 2022 contactable triOS graduates employed in a related field within 12 months.

Source: workingincanada.gc.ca

NOC Code: 21211, 21223 - **Wage data rounded down to the nearest dollar. Average wage doesn't reflect the starting salary but represents the middle value between lowest to highest wages. Local (or regional) income may vary. Last updated in Dec 2024.

Career Opportunities

Data Analyst

Business Intelligence Analyst

AI Specialist

Database Administrator

Data Engineer

Machine Learning Engineer

Python Developer

Predictive Analyst

Employers Who Have Hired triOS Grads



Some Other Employers Are:

- Nexus
- Siemens IT
- TD Canada Trust

“The fields of data analysis and artificial intelligence are reshaping every industry - from healthcare and finance to education and beyond. Our Data Analyst (DA) and Data Analysis and AI Specialist (DAAS) programs are designed to equip students with the practical skills and strategic thinking required to thrive in these rapidly evolving sectors. By aligning our curriculum with industry needs, we are preparing graduates not just for today’s job market, but for the future of intelligent decision-making.”

-Jason Eckert., triOS College Dean of Technology-

Data Analysis and AI Specialist

NOC Code: 21223, 21211

Diploma Program Length:

53 Weeks

Student Success Strategies
Digital Literacy for Professionals
Career Planning and Preparation - Level 1
Ethics and Communicatoin for Data Schience and AI
8 Weeks

Predictive Analytics
Machine Learning
Computer Vision
AI Capstone
16 Weeks

Introduction to SQL Databases
Introduction to Python Programming
Statistics for Data Analysis
12 Weeks

Career Planning and Preparation - Level 2
1 Week

Data Analysis with Python
Data Analysis with SQL
Data Visualization
Data Analysis and Visualization Capstone
16 Weeks

Program highlights include:

- Registered and approved diploma
- Career services
- Job search assistance
- Alumni program benefits

Certification Path:



Admission Requirements:

1. Student has an Ontario Secondary School Diploma or equivalent, OR
Is 18 years of age or older on or before the program begins AND can pass a qualifying test that has been approved by the Superintendent.*
*Applicants from other Canadian provinces must be at least 19 years of age and a minimum of 1 year out of high school by the program start date and successfully pass an academic achievement test.
2. The approved qualifying test for this program is the Wonderlic test. A passing score for this program is 20.
3. The only admission prerequisite is Grade 12 Algebra, and no prior experience is required. For students who have not completed Grade 12 Algebra or the equivalent, a free two-week, self-paced Algebra course is available to ensure readiness for the program.

International Students: Please contact us for more detail regarding admissions requirements.

Accreditation Policy:

Like all post-secondary institutions in Ontario, triOS College reserves the right to accept or deny advanced standing into its programs.

Certifications:

Students who successfully complete this program will be eligible to write certification exam leading to the following designations: CompTIA DataX

Note:

In order to continuously improve our programs, triOS College reserves the right to modify programs at any time. Program delivery order may vary depending on the program start date. This diploma program may not be available at all campuses. The program may have additional reading weeks, depending upon the start date.

You can find our Key Performance Indicators (graduation rate, employment rate, etc.) at www.triOS.com/kpi.

How AI is Used in Technology Programs

What is AI?

Artificial Intelligence (AI) is an *evolving* technology that attempts to simulate human intelligence using computer programs. At the heart of AI is **Machine Learning (ML)**, which correlates large amounts of data to learn the relationships between different data elements. AI and ML products can be used by both IT professionals and software developers to save time on certain tasks.

How do IT professionals leverage AI on the job?

Most IT professionals use AI to obtain or generate information that they would have previously obtained online using a search engine, such as Google. This could include generating summaries for reports and documentation, generating scripts (e.g., PowerShell, BASH), and generating infrastructure configuration templates (e.g., Ansible playbooks).

How do software developers leverage AI on the job?

Nearly all modern development tools now have AI based autosuggestion, code generation, and documentation abilities. Software developers can choose to autofill in certain lines of code, as well as generate the initial structure (called stub code) for a new program to give them a solid starting point for development. Additionally, software developers can leverage AI tools to add the necessary documentation to existing code to save time.

How do we approach AI in our programs?

While AI can be used to save time, all AI-generated content must be reviewed in depth by someone with content expertise to ensure that it provides the necessary functionality, and in a way that adheres to corporate standards, security, and software/copyright licenses. Thus, you must first have a solid understanding of IT administration, software development, or data analysis to leverage AI effectively in those fields.

At triOS, we leverage AI to generate content throughout several courses in the program, but only where appropriate, and in ways that mimic the use of AI in the workplace. Additionally, all AI generated content is thoroughly reviewed before use to ensure functionality, security, copyright adherence, license compatibility, and quality. Students will not learn how to create new AI technologies; however, students will learn how to use existing AI tools where appropriate.

How do data analysts leverage AI on the job?

Data analysts may use AI to generate Python or SQL code for the purpose of extracting insights from data quickly and accurately. AI tools can assist in writing queries, performing data cleaning, and automating repetitive analysis tasks. Additionally, analysts can use AI to create, train, and optimize machine learning models for more complex data analysis and predictive insights.

Course Descriptions:

Student Success Strategies

This course stresses the importance of developing non-technical skills to enhance personal, academic, and career success. The course will address strategies that are important for all adult learners, such as managing finances, maintaining health and wellness, understanding learning styles, setting goals, and honing practical study skills (such as memory, reading, and test-taking techniques). In addition, this course emphasizes strategies needed to succeed in your program, such as navigating technology efficiently, interacting and engaging with peers and facilitators/instructors, and managing learning time and space.

Digital Literacy for Professionals

This course introduces essential concepts and principles for navigating and working in a digital environment. Key topics include using devices, managing information, creating and editing content, communicating and collaborating with digital tools, and ensuring online safety and responsibility. You will also apply best practices for folder organization and file naming conventions.

Career Planning and Preparation -Level 1

This course will introduce you to and provide practice in using the tools required for a successful job search. The concepts covered in this course will help you maintain a career-focused approach throughout your studies so that you are better prepared to conduct a job search after graduating. Specifically, you will learn how to identify your soft and hard skills and how to articulate your abilities in a clear and concise Elevator Pitch that will appeal to employers and resonate with industry contacts. You will learn about the job search resources available to you including using career websites, creating LinkedIn profiles, accessing the “hidden” job market, and networking. You will examine sample résumés and cover letters and begin the process of creating your own professional résumés and cover letters that align with current conventions for content, organization, and formatting. You will also learn about the role of references, thank you letters, workplace philosophies, and strategies for success including maintaining a professional image and using proper etiquette when communicating with potential employers and industry contacts.

Ethics and Communication for Data Science and AI

In the rapidly evolving fields of data science and artificial intelligence (AI), professionals must not only possess strong communication skills but also navigate complex ethical challenges. This course explores ethics and communication in the practice of data analysis and AI development, equipping you with the tools to engage in responsible, transparent, and impactful work.

Introduction to SQL Databases

This course provides a comprehensive introduction to the fundamentals of SQL databases, focusing on the essential skills required to design, query, and manage relational databases. You will explore key concepts in database design, including how to create and structure tables to ensure efficient data storage and retrieval. By the end of the course, you will have gained the practical skills and theoretical understanding needed to effectively work with SQL data in future courses.

Introduction to Python Programming

This course offers a comprehensive introduction to Python programming. In addition to core Python programming concepts, you will develop good programming practices, ensuring the programs are robust and reliable. By the end of the course, you will have gained the practical skills and theoretical understanding needed to effectively work with Python in future courses.

Statistics for Data Analysis

This course offers a thorough introduction to the statistical techniques essential for analyzing data and drawing meaningful conclusions. You will explore both the statistical methods commonly used in data analysis, including sampling distributions, hypothesis testing, regression analysis, classification, and statistical machine learning.

Data Analysis with Python

This course offers a comprehensive introduction to Python programming. In addition to core Python programming concepts, you will develop good programming practices, ensuring the programs are robust and reliable, and understand how to properly leverage AI for code generation. By the end of the course, you will have gained the practical skills and theoretical understanding needed to effectively work with Python in future courses.

Data Analysis with SQL

In this course you will learn the essential skills and techniques required to analyze and manipulate data using SQL, one of the most widely used languages for data management and analysis. More specifically, this course covers the full process of preparing, analyzing, and interpreting data using SQL. You will gain hands-on experience in structuring SQL queries, profiling data, cleaning and reshaping datasets, and performing advanced analytical tasks such as time series analysis, cohort analysis, and anomaly detection.

Data Visualization

In this course, you will learn the principles and techniques of data visualization, a crucial skill for anyone working with data. Data visualization is not only about creating charts, but also about effectively conveying information and insights to audiences through compelling, informative visuals. This course will provide you with a comprehensive understanding of how to visualize data for both exploration and explanation, enabling you to create visuals that tell impactful stories, communicate insights effectively, and support informed decision-making.

Data Analysis and Visualization Capstone

This Capstone course is designed to provide you an opportunity to apply your skills in data analysis, statistical methods, and data visualization to a substantial, real-world project. You will tackle a complex data problem, using advanced analysis techniques to uncover insights, build predictive models, and communicate findings through compelling visualizations. The focus will be on turning data into actionable insights for decision-making, and you will be expected to design and implement your analysis with careful attention to ethical issues, data integrity, and clarity in communication. At the end of the course, you will have a project that you can showcase to faculty, peers, and industry professionals.

Predictive Analytics

This course introduces you to the field of predictive analytics, focusing on the application of machine learning techniques to solve business problems and generate actionable insights. You will learn how to harness data to make informed predictions, improve decision-making, and optimize business outcomes. The course covers key concepts in machine learning such as the Cross-Industry Standard Process for Data Mining (CRISP-DM) lifecycle, data exploration, and feature design, as well as advanced techniques like deep learning and reinforcement learning.

Machine Learning

This course offers a comprehensive introduction to machine learning, equipping you with the fundamental concepts and techniques used to build and deploy machine learning models. You will learn the core principles behind different types of machine learning, including supervised and unsupervised learning, classification, and regression, as well as advanced topics such as neural networks, deep learning, and reinforcement learning. The course emphasizes practical, hands-on experience with popular machine learning libraries like Scikit-Learn and PyTorch, allowing you to implement algorithms, evaluate models, and apply machine learning techniques to real-world problems.

Computer Vision

This course provides an in-depth introduction to computer vision, focusing on the use of machine learning techniques to interpret and analyze visual data. More specifically, this course covers foundational and advanced topics in computer vision, from image classification and object detection to cutting-edge applications like image generation and captioning. You will gain hands-on experience with tools like Keras for building machine learning models and will explore the latest techniques in deep learning and transformer architecture for vision tasks.

AI Capstone

The AI Capstone is the final course in the AI-focused curriculum, designed to provide you with hands-on experience in solving real-world problems using artificial intelligence. You will apply your knowledge of AI and machine learning techniques to a project that involves the design, development, and deployment of an AI-based solution. At the end of the course, you will have a project that you can showcase to faculty, peers, and industry professionals.

Career Planning and Preparation -Level 2

This module builds on concepts and skills introduced in the Career Planning and Preparation Level 1 module. In this subsequent module, you will update and refine your résumé and LinkedIn Profile. You will continue writing cover letters and learn the value of customizing cover letters to specific job postings. You will have the opportunity to apply this knowledge as you conduct a job search and write a cover letter tailored to an ideal job post. Through research, you will create a list of top employers and target current industry opportunities. You will learn about current methods for applying to job postings using technology. You will also gain an understanding of the job interview process, typical interview questions and possible responses, and expectations of both the interviewer and interviewee. In addition, you will engage in practical application of the interview process through role-play. Topics such as negotiating salary, self-management, and on-the-job success for placements and post-graduate employment will be also covered.