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AUTOMATION AND YOUTH JOBS

**HOW TECHNOLOGY IS
CHANGING ENTRY
LEVEL WORK**



Workforce Planning Board
of Waterloo Wellington Dufferin

June 18, 2025

Our Vision: We envision the continuous development of a leading-edge workforce.

Our Mission: Engage partners to find solutions to local workforce development needs.

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1.1 PURPOSE OF THIS REPORT

The job market is always changing, recent changes are seeing businesses increasingly going towards machines, robots and computer programs to do tasks that are usually done by humans, known as automation. While automation can enhance efficiency and reduce costs for companies, it also presents challenges, particularly for young individuals seeking their first employment opportunities.

This report aims to show how automation is reshaping the youth employment landscape, focused on entry-level jobs in Waterloo, Wellington and Dufferin. By looking at the current state of the job market, seeing what jobs are most at risk are of being replaced by automation, and offering strategies for skill development, this report provides youth with the knowledge to navigate and succeed in this environment.

1.2 WHO IS THIS REPORT FOR

- **Youth and Young Adults:** Individuals aged 15 to 24 who are entering or preparing to enter the workforce
- **Educators and Career Counselors:** Professionals guiding students and young adults in career planning and skill development
- **Policymakers and Community Leaders:** Stakeholders interested in understanding and addressing the employment challenges faced by youth in the context of increasing automation

1.3 WHY DO ENTRY-LEVEL JOBS MATTER

Entry-level jobs serve as access points for individuals to begin their employment journeys. These positions often require minimal experience and provide opportunities to develop the skills needed to transfer to future positions. These skills include communication, teamwork and time management (Skills for Success). Industries that have many entry-level positions include retail, food services and administrative support. In Waterloo, Wellington and Dufferin, entry-level positions have traditionally been accessible to youth. However, recent trends

indicate that the availability of these positions are limited. For instance, the youth unemployment rate in the Kitchener-Waterloo-Barrie area was reported at 15%, 16.1% for Kitchener-Waterloo-Cambridge and 12.5% for Guelph CMA in May 2025, indicating challenges in the local job market (Statistics Canada Labour Force Survey Period, 2025).

We need to know how entry-level jobs provides the foundation for future career and professional development. As automation continues to transform these roles, it is important to see how these jobs are being affected and to explore strategies for youth to remain competitive.

2. UNDERSTANDING AUTOMATION

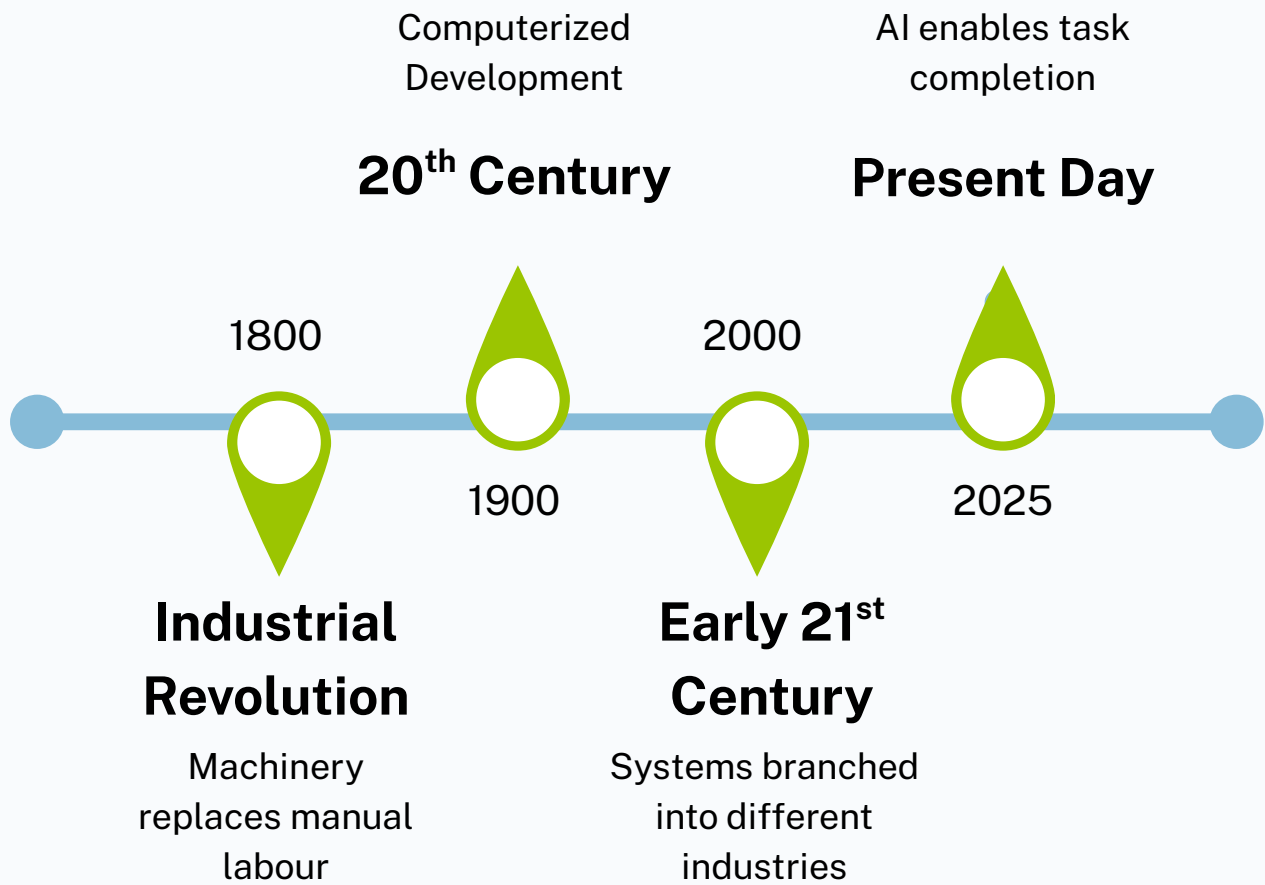
2.1 WHAT IS AUTOMATION

Automation refers to the use of machines, programming and computers to perform tasks that were traditionally done by humans. This can range from simple machines that perform repetitive tasks to complex computer systems that can make decisions. The goal of automation is to increase efficiency, reduce errors and save costs.

Automation in Daily Life:

- **Self-Checkout Machines:** Self-checkout computers allow customers to scan and pay for their items without the assistance of a cashier.
- **Online Banking:** Customers can transfer money, pay bills, and check balances without visiting a branch.
- **Automated Customer Service:** Chatbots on websites answer common customer questions without human intervention.

2.2 A SHORT HISTORY OF AUTOMATION



2.3 AUTOMATION IN WATERLOO, WELLINGTON AND DUFFERIN

Automation has significantly influenced various industries, reshaping the local job market. A report from All Things Talent looked at where automation is affecting jobs and skills that have shifted during 2024. The following page consists of a table with these examples.

Industry	Automation Technologies	Impact on Jobs	Skill Shifts
Manufacturing	Robotic welders AI driven systems Automated assembly lines	Reduced manual labour Increased demand for technology maintenance	Technical skills Robotics Programming
Logistics and Warehousing	Automated picking systems Conveyor belts Inventory robots	Fewer low-experience roles Higher demand for system operators	Warehouse tech operators Inventory management software
Retail and Service	Self checkouts Chatbots E-commerce platforms	Fewer entry level retail jobs Shift to online customer support	Digital tools Remote support UX knowledge
Accounting and Finance	Automated bookkeeping AI auditing tools	Routine tasks automated Shift to advisory and analytical work	Data interpretation Financial systems literacy
Construction	3D printing Robotic bricklaying Site monitoring drones	Manual labour partly reduced New need for operators experienced in tech	Automation oversight Blueprint-to-tech skills
Transportation	GPS routing Autonomous vehicles	Fewer dispatch roles Risk to driving jobs long-term	Logistics systems Fleet technology management

3. HOW AUTOMATION IMPACTS ENTRY LEVEL JOBS

3.1 WHAT ARE ENTRY-LEVEL JOBS

Entry-level jobs are usually the first step into the workforce for youth. They don't require years of experience, and they help build important skills. These jobs are often found in places like local stores, restaurants, offices, warehouses, and farms.

Entry-level positions can include working as cashiers, shelf stockers, food service workers, receptionists, clerks and general labourers. These roles are important not only for personal growth but also for earning income, supporting families, and saving for school or future goals.

However, many of these jobs involve simple or repetitive tasks, and that makes them some of the first to be affected by automation.

3.2 JOBS MOST AFFECTED BY AUTOMATION

Jobs that include repetitive or physical tasks are the most likely to be replaced by any type of automation like machines, software or artificial intelligence. This is evident in industries where youth often work.

For example, in retail, self-checkout machines are replacing cashiers in major grocery chains and department stores. In food service, touchscreens are being used to take orders at fast food restaurants instead of hiring more counter staff. Even in office settings, automated systems now handle scheduling, answering phones, or entering data which entry-level admin assistants would do (Talented Mr. Robot, 2018).

According to a 2024 report from the Brookfield Institute, 42% of tasks in youth-heavy occupations in Canada are at high risk of automation. These include positions like retail salespeople, food counter attendants, and clerical workers, some of the more common jobs for young people in our region.

This trend is one that continues to grow, as businesses become more open to the idea of investing in technology to cut costs and increase productivity.

3.3 CHANGES IN JOB TASKS AND RESPONSIBILITIES

Automation doesn't always mean the complete removal of a job. Sometimes, it changes what the job looks like.

Instead of scanning items or taking orders, workers are now being asked to supervise self-checkout lanes, troubleshoot machines, and manage customer service issues when the technology fails.

In local warehouses, employers are using robots and tracking systems to move inventory and fulfill orders. Workers who used to lift boxes now are monitoring software or helping to maintain the machines. Similarly, agricultural workers are being asked to operate drones engaging with GPS connect and robotic equipment rather than performing manual labour.

While these changes can create new opportunities, they also raise the bar for young workers who may not yet have the training or experience needed to succeed in these upgraded roles. These entry-level roles are starting to require different skills like digital literacy, problem solving and ability to work with technology instead of skills like communication and teamwork.

4. WHY YOUTH ARE MORE AT RISK

4.1 FEWER JOB OPENINGS FOR NEW WORKERS

Automation has reduced the number of entry-level positions filled in by young, motivated workers. Popular industries like retail and food services that used to offer numerous opportunities for youth are now seeing less reliance on labour. Widespread implementation of self checkout kiosks in retail stores and automated ordering systems in fast food restaurants that have diminished the need for cashiers and order takers. This had resulted in fewer job openings for individuals wanting to enter the workforce.

2024

2025

Kitchener-Waterloo-Barrie

15.4%

15%

Kitchener-Waterloo-Cambridge

14.6%

16.1%

Guelph CMA

11.8%

12.5%

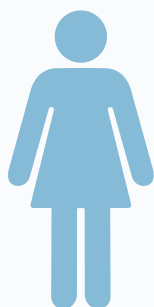
In these regions, the youth unemployment rate stood higher in 2025 than last year except for KWB. These increases show the growing difficulty young people face in securing employment as traditional ways of getting a job and entering the job market become automated.

4.2 SKILL GAPS AND LACK OF EXPERIENCE

Employers demands have included being advanced in technology skills, which are leaving young individuals at a disadvantage due to their limited work experience and training. Post automation positions often require fluency in technology operation, programming and system maintenance and higher levels of soft skills, which are usually not acquired through standard secondary education.

A report by the Labour Market Information Council reported that in May 2024, 49% of employed youth had part-time positions, with young women more likely to work part-time. It's clear that part time work is crucial for youth, and that limiting opportunities for skill and professional development can deepen skill gaps that will become harder to fill in the future (LMIC, 2024).

45% FULL TIME



EMPLOYMENT
TYPE FOR
CANADIAN YOUTH



57% FULL TIME



55% PART TIME

43% PART TIME

5.1 AND 5.2 SKILLS THAT REQUIRE HUMAN INTERACTIONS AND CAREERS THAT STILL NEED HUMAN TOUCH

Trait	Replaceability	Example Occupations
Emotional Intelligence and Empathy	Least replaceable , roles needing deep human connection and care.	Social workers and therapists rely on human empathy to understand and support others in ways AI cannot replicate.
Creativity and Innovation	Difficult to automate , requires imagination, originality, and out-of-the-box thinking.	Graphic designers and entrepreneurs create unique ideas and solutions that machines struggle to invent meaningfully or accurately.
Critical Thinking and Complex Decision Making	Somewhat replaceable , AI can assist but not fully reason	Legal advisors or policy analysts must weigh consequences, ethics, and context beyond what data alone can provide.
Manual and Physical Labour	Most replaceable , routine or mechanical tasks are highly affected by automation.	Warehouse packers or basic machine operators are already being replaced by robots in many industries.

5.3 THE RISE OF HYBRID JOBS

"Hybrid jobs," combine technical proficiency with traditional skill sets

- **Integration of Technology and Human Skills:** Many positions within the job market now require candidates and employees to work alongside any form of technology and automated systems, leveraging these tools to enhance human capabilities. For example, marketing assistants might use data analysis tools to use for creative strategies.
- **Adaptability and Continuous Learning:** Hybrid jobs demand a commitment to lifelong learning, as professionals must stay updated with technological advancements. This adaptability ensures they can navigate the changing of technology.

These hybrid roles will continue to open new career opportunities, and develop an individual's competitiveness in a job market increasingly influenced by automation.

6. PREPARING FOR THE FUTURE OF WORK

6.1 LEARNING NEW SKILLS AND GAINING EXPERIENCE

Employers today want workers who can do more than just simple tasks. They look for teamwork, problem-solving, and communication skills, which machines can't easily replace (Skills for Success). According to the Waterloo Economic Development Corporation (WEDC, 2024), over 60% of local employers say adaptability and teamwork are the most important skills for new hires. However, many youth lack work experience to develop these skills.

6.2 HOW TO USE TECHNOLOGY TO YOUR ADVANTAGE

Using technology is now a key part of many jobs. Basic digital skills, like using Microsoft Office or navigating online platforms are the minimum expected. The 2024 Canadian Digital Skills Report found that 73% of jobs in the Waterloo region require some form of digital literacy (Dais, 2024).

Local libraries and community centers in Waterloo and Wellington offer free tech workshops, where youth can learn skills like coding, social media marketing, basic literacy skills, or data entry. For example, the Waterloo Public Library's Digital Skills program has seen a 20% increase in youth participation since 2022 (Waterloo Public Library, 2023).

Online learning platforms such as Coursera and Khan Academy allow youth to build skills at home, making education more accessible even during busy times.

6.3 EDUCATION, TRAINING AND CERTIFICATION PROGRAMS

Getting a certificate or diploma can make a big difference. Local colleges offer programs aligned with in-demand jobs, especially in tech, healthcare, and skilled trades.



Local post secondary institutions offer resources to develop skills in sectors like Business, Technology, Health Care and more. Local organizations offer certificate programs by experts that can be done in community or private group sessions, allowing opportunities to make professional connections.

7. LOCAL VOICES AND YOUTH PERSPECTIVES

STORIES FROM YOUNG WORKERS

Many young people in the Waterloo, Wellington, and Dufferin region have shared how automation has affected their work experience. For example, some youth working in retail and food service say that their hours have gone down due to automated self-checkout machines and ordering kiosks. A 2024 survey by the Waterloo Wellington Dufferin Workforce Planning Board found that 35% of youth aged 16-24 felt their job hours were reduced or tasks changed because of automation (Workforce Planning Board WWD, 2024).



Youth perspectives on automation are mixed. According to the 2024 Waterloo Region Youth Employment Study, many young workers are worried about job security, with 47% of respondents believing that automation makes it harder to find entry-level work (Region of Waterloo, 2024).

8. CONCLUSION

8.1 KEY TAKEAWAYS

Introduction

- Automation is reshaping entry-level job opportunities for youth locally by replacing human tasks with machines
- Entry-level jobs are essential for developing foundational skills, and are becoming harder for youth to access due to rising automation and local unemployment trends

Understanding Automation

- Automation uses machines and programming to handle tasks once done by humans, aiming to be more efficient and cut costs
- Low skilled jobs are at higher risk of automation

How Automation Impacts Entry-Level Jobs

- These roles are the first step into the workforce for youth as they do not require experience and assist with building important skills
- Automation is quickly replacing repetitive tasks in youth-dominated jobs like retail, food service and clerical work, with 42% of tasks in these roles at high risk
- Automation is eliminating entry level-jobs by shifting youth roles from manual tasks to tech-focused responsibilities that demand new skills

Why Youth are More at Risk

- Employer demands include technology skills, which leave youth at a disadvantage due to limited experience and training

Skills that Require Human Interactions and Careers That Still Need Human Touch

- Emotional intelligence, empathy and creativity are difficult to replace with automation compared to physical and manual labour
- Hybrid jobs that combine technology and traditional skills open up career opportunities

Preparing for the Future of Work

- Employers look for workers with durable skills like teamwork and problem solving
- Basic digital skills is a key part of many jobs. There are free resources available to build these skills
- Local post secondary institutions and local organizations offer resources to develop skills in different sectors

Local Voices and Youth Perspectives

- 2024 survey by the Workforce Planning Board showed that 35% of youth felt their job hours were reduced or tasks changed because of automation
- An employment study showed 47% of respondents believing that automation makes it harder to find entry-level work

Preparing youth for the future means making them ready to learn, grow and stay flexible. Pursue opportunities to develop new skills, especially those that technology cannot replace. Local programs can support youth to succeed in the local labour market. Remember, automation may change jobs, but it can also create new ones where your talents matter most.

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