

EMIL PAUL

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SUMMARY

Computer Science student pursuing a Bachelor of Science with minors in Mathematics, Data Science, and Visual & Material Culture Studies. Strong foundation in programming, operating systems, networking, and data handling, combined with hands-on experience in safety-critical industrial environments. Demonstrated ability to solve complex problems, work with real-world systems, and collaborate effectively with technical teams.

TECHNICAL SKILLS

Programming & Software Development

- Develop object-oriented programs in Java and Python using sound design principles.
- Use Python for data handling, scripting, and basic automation.
- Write C programs and Bash scripts with an understanding of memory management and system-level behavior.
- Design and query relational databases using SQL.
- Use Git for version control and collaborative development.
- Familiar with C++, C#, and the Unity development environment.

Systems, Networking & Automation

- Understand operating system concepts including scheduling, memory management, and processes.
- Apply networking fundamentals such as TCP/IP, routing, and protocol behavior.
- Possess foundational knowledge of cybersecurity and cryptography principles.

Data & Problem Solving

- Collect, clean, and structure data for analysis using Python (pandas, NumPy) and R(tidyverse)
 - Create exploratory data analysis and visualizations using ggplot2 and matplotlib.
 - Communicate technical results clearly through written and visual formats (e.g., R Markdown).
 - Apply statistical and machine learning techniques including linear & polynomial regression, decision trees, support vector machines, Naive Bayes, PCA (dimensionality reduction), and clustering methods such as K-Means and Gaussian Mixture Models.
 - Apply algorithmic and analytical thinking to solve complex problems efficiently.
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PROJECTS

DabMaster3000 — Realtime Bingo Card Validator

Java · OOP · Arrays · Control Flow · File I/O · Game Logic

- Developed a Java application that automatically validates and marks bingo cards in real time, supporting multiple game modes and dynamic input processing.

GitHub: <https://github.com/epaul23/dabmaster3000>

Wonderland Saga: The Final Showdown — Text Adventure Game

Java · OOP · File I/O

- Designed a modular Java text-adventure game featuring inventory management, NPC interactions, and file-driven world configuration using object-oriented architecture.

GitHub: <https://github.com/epaul23/Wonderland-Saga-Java->

More projects: <https://epaul23.github.io>

EDUCATION

Bachelor of Science – Major in Computer Science

Minors in **Mathematics, Data Science, and Visual & Material Culture Studies**

Mount Allison University — Sackville, NB, Canada

January 2024 – Present

Relevant Coursework:

Data Structures and Algorithms, Algorithm Analysis, Operating Systems, Systems Programming (C & Bash), Object-Oriented Design (Java), Computer Networks, Database Systems, Cryptography, Data Acquisition & Visualization (Python & R), Statistical Methods for Machine Learning

Mechanical Technician – Precision Skills

Georgian College — Barrie, ON, Canada

September 2018 – April 2020

Relevant training: CAD/CAM, CNC programming and applications, engineering drawings, and manufacturing processes.

EXPERIENCE

NB Machinist Apprentice / Shift Lead Hand / CNC Programmer

JessEm Tool Corporation — Moncton, NB

November 2020 – January 2024

- Programmed and operated CNC machines in a high precision manufacturing environment.
- Led shift operations, ensuring safety, quality control, and production efficiency across multi-hour production runs.
- Diagnosed mechanical and process issues under tight production constraints.
- Collaborated with engineers and technicians to improve workflows and tooling accuracy.

CNC Machinist & Quality Inspection (Co-op Student)

Bramden Precision Aerospace Ltd — Newmarket, ON

April 2019 – September 2019

- Performed quality inspections on aerospace components to strict tolerances.
 - Assisted with CNC machining operations and process verification.
 - Gained experience working within regulated, safety-critical manufacturing standards.
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ADDITIONAL TRAINING & PROJECT EXPERIENCE

• Research Data Repository Collaboration (CRKN):

Contributed to a real-world data science repository through a semester-long collaboration with the **Canadian Research Knowledge Network**. Performed bug fixes, repository maintenance, and system updates while collaborating with industry professionals.

- Completed an API and Web Services introduction certification (Udemy).
 - Completed CCNA and CompTIA A+ & N+ foundational training (LEADS Institute of Computer Networking).
 - Earned J2SE (Java) certification (G-TEC Institute).
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References available upon request