

Elliott DuCharme

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Education

Dakota State University, The Beacom College of Computer and Cyber Sciences
B.S. Computer Science, Magna Cum Laude

Madison, SD
May 2023

Work Experience

Associate Technical Professional | KBR

June 2023–Present

- Integral member of the FEWS NET team, whose mission is to use current and historical data to assist governments with famine predictions and preparation.
- Rewrote FEWS NET website using **React**, **Next.js**, **TypeScript**, and **Tailwind CSS**.
- Utilize Tailwind to **enhance UI/UX** for mobile users.
- Demonstrates proficiency in **frontend development** and a commitment to leveraging technology for positive societal outcomes.

Software Design Student | Daktronics

May 2022–May 2023

- Tested new versions of several software and hardware products for digital signage and helped resolve impediments relating to them.
- Gained experience communicating issues with members of the appropriate development teams when issues arose.
- Worked on **C#** development team responsible for Orion, a highly anticipated web app for automating test cases which has been in the works for many years.
- Helped find and fix bugs and add new features.

Kitchen Café Worker | Kwik Trip

May 2019–March 2023

- Gained interpersonal skills by working with others in a **fast-paced, high-stress environment**. Took on **leadership roles** during the rush hours.
- Gained valuable **multitasking skill and experience**. Served many customers and filled many orders in the morning, afternoon, and night.
- **Improved efficiency** of kitchen operations and food preparation by discovering more efficient methods.
- Trained several new team members.

Projects

MemoryMosaic

- My pride and joy and largest personal project to date, a **free and open source**, locally hosted **C# Blazor web app** for backing up, storing, and managing a lifetime of photos and videos.
- Started work in October 2020, when the free tier of Google Photos ended. Since its v1.0 release, it has been my replacement for it..
- Has had two major updates and overhauls throughout the years to improve and enhance the project.
- Gained **extensive experience** with **C#**, **HTML**, **CSS**, **JavaScript**, **Blazor**, and **PostgreSQL** to develop the project. **Taught myself** these technologies within **3–4 weeks**. Quickly learned about inner workings of different photo and video file types.
- **Very well-optimized**: your library can scale into the **millions** without any performance issues.
- Importing items is **extremely customizable**, allowing the user to control exactly where each item will end up.

AutoHotkey Scripts

- Large repository of **AutoHotkey** scripts to help automate many repetitive daily computer tasks.
- Includes **programmable hardware** like mouse, keyboard, and macro pad, each with dozens of extra buttons and actions.
- I have a need for efficiency in everything I do, and this project has helped me achieve that. I can work far more efficiently with these amazing tools.
- Learned about some of the inner workings of the Windows operating system.

Dish Up

- Final project for Software Engineering class, a **C# Blazor web app** that utilizes **PostgreSQL** for creating, storing, managing, and displaying recipes.
- Gained invaluable experience in a **project leadership position**. Delegated tasks, worked on desktop UI, and helped team members get assigned work done.
- Has a **well-thought-out UI/UX** that works well on both desktop and mobile.
- Recipes can easily be shared between users, and the user can create groupings of recipes to stay organized. Contains search feature to easily find recipes.

Graphical Photo Organizer

- A **C# WPF** app for organizing folders of photos and videos based on the date each item was taken.
- Very **optimized** and **efficient**: can automatically sort thousands of items in a few minutes.
- Allows users to sort items manually or automatically, giving them more control or saving them time, depending on their needs.
- One goal was to make a **simple app anyone could use**, and the interface reflects that design goal.

Date Taken Extractor

- A **C# library** making it easy to read and write **Date Taken metadata** for photos and videos. My first **NuGet package**, with **over 4,000 downloads**.
- Used in MemoryMosaic and Graphical Photo Organizer to greatly help **reduce duplication** of code.

Skills

- Enjoys working with C#, PostgreSQL, React, Next.js, TypeScript, Tailwind CSS, Blazor, Unity, PHP, C++, Java, and Python.
- Mastery skill level in C#, Blazor, PostgreSQL, MySQL, and Unity.
- Responsibly uses Git for version control.
- Fast learner, passionate about learning new languages and tools.
- Can efficiently write quality code in JetBrains Rider/WebStorm, Visual Studio, Visual Studio Code, and Vim.
- Mastery skill level in productivity and efficiency, and automation tools.
- Experienced with robotics programming and vision.
- Experienced with Windows and Linux.

Special Involvements

- Lead programmer for FIRST Robotics Competition team
- Dale Carnegie Teen Leadership and Communication Conference
- Member of Computer Club and Programming Club
- Member of Game Design Club

October 2015–March 2020
Spring 2018
Fall 2020–Spring 2023
Fall 2022–Spring 2023