Elliott DuCharme

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Education

Dakota State University, The Beacom College of Computer and Cyber Sciences   Madison, SD
B.S. Computer Science   Expected May 2023

Work Experience

Software Design Student   May 2022–Present
Daktronics—Brookings, SD
- Tested new versions of several software and hardware products for digital signage and helped resolve impediments relating to them.
- 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.
- Gained experience working on testing and development teams and working with people on other teams responsible for different software and hardware products.

Kitchen Café Worker   May 2019–March 2022
Kwik Trip—Caledonia, MN
- Gained interpersonal skills by working with others in 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

AutoHotkey Scripts
- Large repository of **AutoHotkey** scripts to help me **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 a lot about some of the inner workings of the Windows operating system.
- Continuously tweaking scripts and adding new features.

Photos Storage Server
- 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 around **October 2020**, when the free tier of Google Photos ended. Since its v1.0 release, it has been my replacement for Google Photos.
- Gained additional experience with **C#**, and learned **HTML**, **CSS**, **JavaScript**, **Blazor**, and **PostgreSQL** in **3–4 weeks** to develop the project. Quickly learned about inner workings of different photo and video file types.
- Very **well-optimized**: the number of items in your library can scale into the **hundreds of thousands** without any performance issues.
- Importing items into your library is extremely customizable, allowing the user to control exactly where each item will end up.

Dish Up
- Final project for Software Engineering class, a **C# Blazor** web app that utilizes **PostgreSQL** for creating, storing, managing, and displaying recipes.
- Gained lots of invaluable experience in a **project leadership position**. **Delegated tasks**, worked on **desktop UI/UX**, and **helped team members** get assigned work done.
- Has 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 couple minutes.
- Allows user to sort items manually or automatically, giving them more control or saving time depending on their needs.
- The goal was to make a simple app anyone could use, and the interface reflects that design goal.

Date Taken Extractor
- A **C# library** for reading and writing Date Taken metadata for photos and videos. My first NuGet package, with **over 1700 downloads**.
- A wrapper around another library, making it simple and easy for me to read and write metadata.
- Used in Photos Storage Server and Graphical Photo Organizer to greatly help reduce duplication of code.

Skills

- Can work in C#, Unity, C, C++, Java, Python, HTML, CSS, and JavaScript.
- Responsibly uses GitHub for version control.
- Fast learner, passionate about learning new languages and tools.
- Mastery skill level in .NET, Blazor, Unity, PostgreSQL, and MySQL.
- Experience creating UIs for web and desktop applications, and Unity
- Can efficiently write quality code in Visual Studio, Visual Studio Code, and JetBrains Rider
- Fluent in productivity and efficiency, and automation tools
- Experience with both Windows and Linux.
- Experienced with robotics programming and vision.

Special Involvements

Lead programmer for Caledonia FIRST Robotics Competition team   October 2015–March 2020
    Placed 2nd place in 2018–2020 competitions.
Dale Carnegie Teen Leadership and Communication Conference   Spring 2018
Member of Computer Club and Programming Club   Fall 2020–Present
Member of Game Design Club   Fall 2022–Present
Global Game Jam   February 2023

References

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