

SUMMARY

This document is a brief summary of my professional experience. If you would like additional details on any of the topics contained within this document, please see my detailed resume hosted on GitHub: <https://github.com/Cshooltz/Resume>

I am a highly motivated individual who is looking to start a career in software development/engineering. I have a solid foundation in chemical/mechanical engineering experience (about 7 years between college and working experience), and over the last 6 months I have been, and continue to be, working hard to train myself in software development. I am confident that with my combined skill set and experience that I will make a valuable addition to any team and look forward to gaining professional experience in software development.

I've decided to make the change to software development as a personal choice this last year. I have always had a passion for software and computer technology and recently realized that it is more appealing to me now than traditional engineering ever was. In a nutshell, I am making the change because I love making software!

I am predominately looking for work in Ohio, the closer to Cleveland the better, since I have family in the Cleveland area and simply like the area too. However, I am open to discussing relocation to other places for work instead if the opportunity is a good fit for me. I am also open to remote positions and can facilitate periodic travel (i.e. by flight or road trip) to meet in person.

Please continue reading for an overview of my experience and skills. Also keep in mind that I continue to work at improving my skills in software development weekly and I intend to update my online resume regularly to reflect my progress.

EDUCATION AND TRAINING

Undergraduate College

Michigan Technological University
BS Chemical Engineering, 3.62 GPA (Cum Laude)
Passed FE Exam

Houghton, MI
April 2016
April 2016

Misc

- *Our Community Listens* communication training, provided by PhillipsLISTENS, INC, November 2016
- Continuous Improvement Program Training, DTE Energy, 2018-2019

SOFTWARE DEVELOPMENT EXPERIENCE

Overview

As software development is the field I want to break into, this last year I have put considerable effort into building up my experience for it. I started with a comprehensive course in C# on Udemy, the *Complete C# Masterclass*. Since then I have been working on my own practice project, a simple database editor, to gain practical experience and experiment with different ideas.

For complete details on my projects, please see my [detailed experience](#) and individual GitHub repositories:

- Database Editor Source: [Data Editor App](#)
- C# Masterclass Source: [C# Masterclass](#)

General Skills and Capabilities

- Generally competent with any programming environment and language
- Specialized in C# and .Net programming for cross platform applications
- Recently dove into multithreaded programming and am now comfortable with multithreaded programming in C#
- Comfortable performing GUI programming. Most familiar using game engines like Godot and Unity, but also comfortable working with other frameworks like WPF and HTML
- High level understanding of computer hardware and architecture. Comfortable working as low level as assembly language

Projects

Database Editor

This project is my first practical foray into creating my own GUI application, and is my current active project. My goal is to make a simple cross platform database editor that can work with either an embedded database, a database server, or plain text in files. The following are highlights of my current progress:

- Built using the Godot game engine, for GUI and certain cross platform features, and C#/.Net
- Designed UI structure for user interaction with the program
- Designed custom table UI element for viewing and editing data sets
- Created custom embedded file browser (working towards making it a full embedded file manager) complete with threaded execution for blocking code
- Implemented 3 reusable threading strategies (dedicated worker thread with work queue, Task and ContinueWith based work queue, and just Tasks with mutexes)
- Still WIP with lots left to do. I update the repository periodically with my most recent work

Command Line Tic-Tac-Toe

Completed as part of the C# Masterclass, I designed a two player game of Tic-Tac-Toe that runs completely on the command line. Runs a user input driven main loop that handles user input and redraws the screen each turn.

WPF "Zoo Manager" App

Completed as part of the C# Masterclass, this simple program allows the user to edit database entries for zoos and animals and builds a relational table to keep track of what animals each zoo has. Data is stored in a local Microsoft SQL database. The GUI was built using WPF on .Net Framework 4.

Complete C# Masterclass

I chose to take this course because it is a very comprehensive introduction to programming in C#. It covered all of the basic programming principles and went all the way to advanced topics, such as multithreaded programming, GUI programming, LINQ, using databases, and events. For the details of what I learned from this course, please see my [detailed experience](#) and my [C# Masterclass](#) repository.

WORK HISTORY

Natural Gas Transmission Pipeline and Facilities Engineer, DTE Energy, Detroit, MI

2017-2020

Job Responsibilities

- Primary responsibility: end-to-end ownership, management, and execution of capital projects to install and modify natural gas transmission systems (completed 10's of projects per annual cycle)
- Performed conceptual through detailed engineering and design for each project
- Performed detailed financial analysis for each project, including cost estimates, spending forecasts, and reporting actual vs. forecasted spends
- Coordinated involvement and collaboration of all necessary internal and external groups required for each project (normally 5-10 internal departments) and coordinated construction teams to perform project construction
- Procured materials and contractor services required for assigned projects
- Ensured federally and internally required project documentation was assembled and archived at the end of each project. Also co-led response to state audit of construction records for projects completed within the last 40 years
- Facility Requests: worked with external organizations who had construction projects in the vicinity of, or crossed, DTE pipelines. Developed custom solutions for each client's case through collaboration between myself, the client, and my team
- Contributed to and drove continuous improvement initiatives within my department
- Ensured safety in all aspects of my work. One of my most critical functions was to develop and oversee pressure control procedures, which were required for any non-standard modifications to the operation of any gas facilities (i.e. taking a pipeline offline for construction and bringing it up again after)

Accomplishments

- Created central documentation website for department using Microsoft Sharepoint
- Developed standardized calculation spreadsheets for use within my department, including but not limited to:
 - Gas pressure regulator sizing and set point calculator
 - Gas velocity and volumetric flow calculator
 - Time estimate calculator for the duration of venting a pipeline to atmosphere
- Created high-level project management system to track progress and time estimates for project assignments in order to better plan and balance workload among the available engineers
- Implemented new project management strategies to improve project execution efficiency and robustness
- Resolved conflicts between myself and internal and external groups/individuals in order to produce mutually beneficial solutions
- Improved the relationships between my department and inter-dependent departments through open, regular, discussion and collaboration; improved efficiency of inter-departmental tasks as a result

ADDITIONAL SKILLS

- Proven communication, diplomacy, and teamwork skills
- Excels at process engineering and process design
- Very high competence using computers and software
- Excellent office software skills (i.e. Microsoft Office, Libre Office)
- Self-starter: Very self motivated and requires little supervision. Will proactively learn new job functions and will ask for help when needed
- Comfortable building my own desktop PCs and familiar with most PC components
- 2D and 3D CAD (i.e. AutoCAD, Microstation, Solidworks)
- Artistic 3D Modeling, Rendering, and Animation
- 2D digital drawing, painting, and design