



# AARON DAY

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## SOFTWARE ENGINEER



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## EXECUTIVE SUMMARY

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3+ years' experience coding/programming and debugging in C, C++ and C# as well as JavaScript and Python scripting. Ability to learn quickly and work as part of a team. Former military professional with a strong work ethic, high attention to detail and a great desire to learn new skills, solve problems and think critically. Recently graduated with high honors from Oregon Institute of Technology with a Bachelor of Science in Software Engineering Technology.

## PROFESSIONAL SKILLS

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**Programming:** C/C++/C#, ASP.NET/.NET Core MVC, Razor/HTML 5, CSS 3, JavaScript/ECMAScript, jQuery, Bootstrap, LINQ/Microsoft SQL Server, Python, MatLab, MIPS Assembly

**Applications:** Arduino, Atom, CodeBlocks, Discord, Google Hangouts, MatLab, Microsoft Office Suite, Microsoft Visual Studio, Notepad++, PyCharm, Qt Creator, Skype, Slack, Spyder 3, Trello

**Services/Methodologies:** Agile, Azure, Back-End, BitBucket, Black Box Testing, Code Coverage, Continuous Integration, Doxygen, Dr. Memory, FakeItEasy, Front-End, Full Stack, Functional Testing, GitHub, GitLab, Google Docs, Integration Testing, KDiff3, log4net, Mecurial, Middleware, NUnit, ReSharper, Scrum, Test Driven Development, TortoiseHg, Unit Testing, White Box Testing, xUnit

## EDUCATION

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*Oregon Institute of Technology (OregonTech)*

06/2018

**BS | Software Engineering Technology**

Minor in Applied Mathematics

Graduated Magna Cum Laude | 3.76 GPA

Relevant coursework:

Advanced Technical Writing

Computer Architecture

Computer Network Communications

Cryptography

Database Systems and Design

Data Structures and Algorithms

Design Patterns

Discrete Mathematics

GUI Programming

Linear Algebra

Object Oriented Programming

Operating Systems

Small Group / Team Communications

Software Testing

Web Design and Development

## PROJECTS

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### **AVIATION MAINTENANCE MANAGEMENT SYSTEM (AMMS) – SENIOR PROJECT 2018**

Derived from the U.S. Army's current maintenance software using modern software development techniques. Has the capacity to manage records for all aviation units in the Army. Individual user accounts with multiple user roles allowing access to role-based maintenance tasks. Records flights, inspections, faults and maintenance actions.

Sole developer for this project.

*C# ASP.NET Core 2.0 full stack web application*

- Used GitHub source control management service
- Used object modeling to implement the Model View Controller (MVC) design pattern
- Built a Microsoft SQL Server database using LINQ and Entity framework for access
- Used modern software design principles to use a repository and control access to the database
- Built custom services and security protocols for transferring data between views and repositories
- Created Razor/HTML structured web pages
- Used CSS, JavaScript, jQuery, and Bootstrap for web page design
- Implemented NUnit Testing framework in combination with FakeItEasy Mocking to test features
- Included Log4Net Logging service for error reporting and path tracing during development
- Currently hosted online with Microsoft Azure

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## **MOVIE INVENTORY DATABASE (CAPA MOVIES) – JUNIOR PROJECT 2017**

Online movie inventory system, which allows users to manage all of their movies regardless of the format. Locate movies across media platforms to know exactly what you have and where you have it. Review movie information from Online Movie DataBase (OMDB) and Rotten Tomatoes. Give the movies a personal rating and loan physical copies of movies to your friends. Multiple view and sort options.

4 person team project. My role/responsibilities: Project Owner, Database Manager, Tester

*C# ASP.NET Core 1.0 full-stack web application*

- Adopted the Agile development methodology with weekly scrum meetings and bi-weekly sprints for product development
- Utilized GitLab for source control and user story management
- Responsible for the initial project build using the Model View Controller (MVC) design pattern
- Built and maintained the Microsoft SQL Server database using LINQ and Entity framework for access
- Implemented the xUnit Testing framework
- Developed controller methods for various sorting options within the views

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## **ORTHOGONAL FREQUENCY DIVISION MULTIPLEXING – LINEAR ALGEBRA II PROJECT 2018**

Method of encoding digital data on multiple carrier frequencies. Simulates the function of a wireless transmitter and receiver as well as noise encountered during transmission.

- Developed in MatLab
- Converts data into a binary bit stream
- Modulates the bit stream into a symbol stream using Phase Shift Keying (PSK)
- Maps the symbols to an FFT carrier package
- Inserts pilot signals into the package
- Uses Inverse Fast Fourier Transform (IFFT) to convert signal into time domain for transmission
- Adds cyclic prefixing to help with interference
- Simulates transmission noise
- Receives transmission and reverses process to obtain data stream

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## **ENIGMA – CRYPTOGRAPHY PROJECT 2017**

Fully functional software version of the World War II Nazi Enigma machine. Allows the user to choose one of three reflector rotors, three of eight standard rotors, ring settings for each installed rotor, initial settings for rotors and up to 13 plug board cable settings. Includes keyboard, light board, and input/output display.

- Developed in C#
- Used Windows Forms for the Graphic User Interface

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## **WORK EXPERIENCE**

*L3 Vertex Aerospace*

10/2010 – 11/2012

### **H-60 Technical Inspector**

- Trained mechanics and inspectors on the use of the ULLS-A(E) maintenance management software
- Developed multiple Microsoft Excel programs to manage personnel time on active work orders/expense accounts, aircraft rigging, cable tension checks, fuel integrity tests, aviation maintenance messages, inspection checklists, and phase packets

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*ARINC*

08/2008 – 10/2010

### **AIT Analyst / UID SME**

- Constructed 2-dimensional barcodes to track military aviation assets, tools, weapons, and aviation life support equipment
- Registered the barcodes with the national UID registry
- Trained military personnel on the use of specialized inventory management software, including adding/removing/querying database items.

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## **MILITARY EXPERIENCE**

United States Army

11/2001 – 10/2007

Tennessee Army National Guard

11/2007 – 10/2010