

RYAN THOMAS WEILER ▲

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GitHub: <https://github.com/ryan-wlr>

EXPERIENCE

2019 Aug. Python

Currently Reading: Elements of Programming Interview in Python

I am learning different structures in programming such as Lists, Arrays, Stacks, Objects, etc. The book covers a bunch a coding puzzles that are fun to figure out.

2019 Aug. ROS, Python, GazeboSim

Read book: A Systematic Approach to Learning Robot Programming w/ROS

Learned how to move Baxter robot joints and object detection. Project dealt with mostly Python code and a little C++. Also used .jsp files for joint motion.

2019 July. ROS, Python, GazeboSim

Read book: Artificial Intelligence for Robotics

This book was special because it tied the connection between the neural net and the actual moving of the robot joints. Its downfall was that the code was not made for a simulator but for a commercial off the shelf physical robot. The book really expressed how to train a custom neural net for a specific task such as picking up toys. A good project would be taking the Python code and implementing it to the turtlebot3 robot model.

2019 June. ROS, Python, GazeboSim, TensorFlow

Read book: ROS Robot Programming

By far my favorite robot book. The code in this book just worked like magic. This book covered the full spectrum from robot mapping using Map Server to the different components. It even ended with a neural net auto-race. Downfall of the book is it did not mention anything on the neural net part. It seems the code for that section was done after the completion of the book. The book had a dqn neural game that would keep track of every time the robot turtle hit the square using Odometry and Twist objects. The backend of the neural net was done using TensorFlow. Also discussed connecting urdf arm to the robot. I am still back engineering the auto-race and dqn part.

2019 May. Python, TensorFlow

Read book: Deep Learning with Keras

Wrote hand notes on all robot code and this book as well. This book dealt with learning the different neural net models. Also discussed advanced optimizers such as Adam. It talked about different models such a Convolutional neural network. GANS were discussed and it had a PyGame model at end of book.

2017 Oct. ROS, MATLAB, V-Rep, Ubuntu/Linux, edX-Course

Autonomous Mobile Robots

The goal of this project is to learn autonomous robot algorithms. The project will use motion planning algorithms such as Dijkstra's algorithm for computing navigation It also uses Dynamic Window Approach(DWA) for online planning, taking into account both static and dynamic obstacles.

Project Link: <http://holosightillustrations.azurewebsites.net/Home/AutonomousMobileRobots>

Video Channel: <https://www.youtube.com/watch?v= ueOS0Y3-Ts>

2017 May. ASP.NET MVC, HTML, CSS, JavaScript

Created Blog

I created a blog section in my website. I created a custom layout and menu style. I also used state of the art fonts and div content. Everything looks nice on a mobile device as well. The project took two days to create.

Project Link: <http://holosightillustrations.azurewebsites.net/Home/Blog>

2017 May. Python, C++, ROS, GazeboSim

Robot Roofer

This project will be using ROS and GazeboSim to simulate a robot that will be able to put a roof on a house. The project will be using GazeboSim to figure out the right sensors to use for the robot to figure out its environment. The project will be working along side DARPA's Atlas robot. In fact I plan to use some of their code.

Project Link: <http://holosightillustrations.azurewebsites.net/Home/RobotRoofer>

2017 Mar. IOS Swift Application

Music Player

This project is a song player for an iPhone App. It holds fifty-seven songs and the player can shuffle and auto-play. It is currently getting a genre option and will use Apple APIs.

Project Link: <https://github.com/ryan-wlr/MusicPlayerIOS>

Link2: <http://holosightillustrations.azurewebsites.net/Home/Apps>

2017 Jan. WPF Application and SQL

WPF Application

This is a WPF (Windows Presentation Foundation) application. It was designed in Visual Blend and has a SQL database. It can store child information in the database.

Project Link: <http://holosightillustrations.azurewebsites.net/Home/Apps>

2016 Dec. ASP.NET

WireFrame Website

Developed a WireFrame Website using Adobe Photoshop to style and create the layout. Then I programmed everything in Visual Studio and created an ASP.NET MVC Bootstrap layout. The goal of the project is to use these skills and compete in <https://topcoder.com> competitions.

Project Link: <http://dipped.azurewebsites.net>

2016 Sept. Java

Android Program

Developed an Android App that displays the weather. The app uses Yahoo weather server and is able to display the weather conditions in real time for any location in the US.

Source Code: <https://github.com/ryan-wlr/WeatherApp>

2016 May ASP.NET

Created Bootstrap Template

Created a blank ASP.NET site and a copied bootstrap template website.
Project Link: <http://startbootstrap.azurewebsites.net>

2016 April ASP.NET MVC 5

Updated Real Estate Website Using Code First Migrations

Used code first functions to update the database without deleting or changing any existing data. Applied methods learned from the e-book: Getting Started with Entity Framework 6 Code First using MVC 5.
Project Link: <http://realestatetemplate.azurewebsites.net>

2016 Feb. Maya + Unity

Developing Mars Rover Game to be displayed on HoloSight Illustrations website.

The project will require drawing and animating rover in Maya and C# code for game controls in Unity.
Project Link: <http://holosightillustrations.azurewebsites.net/home/videos>

2016 Jan ASP.NET MVC 5

Developed Website and Maya Graphical Illustration

Developed HoloSight Illustrations website. The goal of the project is to prepare for Microsoft's HoloLens technology using Unity Software. The website will serve as a hub to demonstrate the technology.
Project Link: <http://holosightillustrations.azurewebsites.net>

2015 August ASP.NET MVC 5

Developed Custom Bootstrap Template Website

Developed custom Law Firm website for customer using twitter bootstrap.
Project Link: <https://lawfirmtemp.azurewebsites.net>

2015 July ASP.NET MVC 5

Developed Custom Bootstrap Template Website with SQL Database

Developed custom Real Estate website for customer using twitter bootstrap. The database or .mdf file contains pictures of houses and a detail of each house. It also contains a search.

Project Link: <https://realestatetemplate.azurewebsites.net>

Source Code: <https://www.dropbox.com/sh/cogrrhwcgkdna4j/AADHYXbsD1h5Nvur0QNDc3foa?dl=0>

2015 May-June ASP.NET MVC 5

Developed Blue Style Websites

Learned Twitter Bootstrap framework and created rich text format with custom PhotoShop features. Bootstrap is a framework built off of CSS that scales down nicely to fit any screen size.

Project Link: <http://bluestylewebsites.azurewebsites.net>

2013-2014 ASP.NET MVC 4

Website SQL Database

Developed a fully functional store website where shoppers can add or delete products from a cart and then checkout. The checkout process gathers customer information and displays a conformation page. The website features an admin section with a built in GUI that allows an admin to add, edit, or remove a product and display a product image.

Project Link: <http://bluestargames.azurewebsites.net>

Source Code: https://www.dropbox.com/sh/qlfwgwid60v9rw/AADaFQW7O1mhlHQSOX_u2V-9a

2010-2011 Dept. of Computer Science, University of Central Florida

Kruskal's Algorithm

Developed a Java program that implemented Kruskal's Algorithm. The program calculated distances. It maintained a collection of trees and is able to calculate the shortest distances. UPS uses a similar program called Orion that is able to calculate the shortest route for their delivery service. The advanced algorithm saves the company millions on fuel and time costs.

Source Code: <https://www.dropbox.com/sh/qw3d8uvdds0b6oz/AAD-nhFlpYFDbo5dArIAc1Nha?dl=0>

2010-2011 Dept. of Computer Science, University of Central Florida

Binary Software Program

Developed in C a program that implemented a binary search tree. The program sorted words using a left and right node. The program was able to place words in alphabetical order inside the tree moving the node into the correct position.

Source Code: https://www.dropbox.com/sh/yo0t9f8ya3rolnu/AAC6v7GeHCRDg_s_aaqjWPz8a?dl=0

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EDUCATION

2011-2013 University of Central Florida

Bachelor of Science in Computer Science, 2013

GPA: 3.8 Dean's List

2009-2011 Valencia Community College

Associate of Arts, 2011

GPA: 3.7 Dean's List

SOFTWARE/LANGUAGE EXPERIENCE

Software Languages

ASP.NET.....4 years
ASP.NET MVC.....4 years
C#.....5 years
C/C++.....5 years
CSS.....5 years
HTML5.....5 years
Stored Procedures.....1 year
SQL.....4 years
MySQL.....2 years
MS Access.....2 years
Java.....4 years
JavaScript.....4 years
JSON.....1 year
PHP.....4 years
Xamarin.....1 year
Python.....2 years
Swift.....1 year
MATLAB.....1 year

Paradigms

Agile Development
MVC (Model View Controller)

Servers

Microsoft Windows Server 2012.....3 years
Microsoft Azure.....2 years
SharePoint.....1 year
Team Foundation Server.....1 year

Artificial Intelligence Algorithms

Decision Trees.....3 years
Principle Component Analysis.....2 years
Neural Networks.....1 year

Platforms

Adobe PhotoShop.....5 years
Adobe Illustrator.....5 years
Microsoft Excel.....5 years
Microsoft Visual Studio.....4 years
Maya.....1 year
Unity.....1 year
Ubuntu.....3 years
Kali Linux.....1 year

ONLINE SCHOOLS

Pluralsight.....4 years
Microsoft Virtual Academy.....4 years
Xamarin University.....1 year

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Recommendations and References

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REFERENCES

Name: **Sarah Applegate**
Mutual Employer: Department of Computer Science, University of Central Florida
Title: Professor of Computer Science
Relationship: Supervisory Faculty Member / Department Chair
Phone: (407) 823-0169 (land line)
Email: sarah.applegate@gmail.com

Name: **Jim McCloskey**

Mutual Employer: Department of Computer Science, University of Central Florida
Title: Professor of Mathematics
Relationship: Supervisory Faculty Member / Department Chair
Phone: (407) 582-2221 (land line)
Email: jmccloskey@valencia.edu

Additional references can be provided upon request.

Books

Pro **ASP.NET MVC 5** – *Adam Freeman*
Programming **Razor** – *Jess Chadwick*
Professional **Team Foundation Server 2012** – *Ed Blankenship & Martin Woodward*
Professional **SharePoint 2013 Development** – *Reza Alirezaei & Brendon Schwartz*
Creating Mobile Apps with **Xamarin.Forms** – Charles Petzold
C# 4.0 – *Ian Griffiths & Matthew Adams*
The Complete Reference **C++** 3rd Ed. – *Herbert Schildt*
Professional **ASP.NET MVC 4** – *Jon Galloway & Phil Haack*
Pro **SQL Server 2012 (Rel. Database Design & Implementation)** - *Louis Davidson*
Pro **HTML5 & CSS3** – *Michael Bowers & Diyoisios*
Professional **JavaScript** for Web Developers. – *Nicholas C. Zakas*
Pro **JavaScript** Techniques – *John Resig*
Pro **jQuery** – *Adam Freeman*
Expert **MySQL** – *Charles Bell*
PHP Solutions 2nd Ed. (Dynamic Web Design) – *David Powers*
Pro **PHP MVC** – *Chris Pitt*
AngularJS – *Brad Green & Shyam Seshadri*