

Wenhao Yang

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EDUCATION

Brown University , Providence, RI	<i>September 2019 – May 2021</i>
Master of Science in Computer Science	
Course Fall 2019: Intro to Robotics, Deep Learning	
Union College , Schenectady, NY	<i>September 2015 – June 2019</i>
Bachelor of Science in Computer Engineering	
Cumulative GPA: 3.62, Cum Laude, Dean's List (2017 – 2019)	
Honor Thesis Project: Gesture-Controlled Quadcopter System	
Related Courses: Large Scale Software Design; Algorithms Design and Analysis; Data Structures; Parallel Computing; Computer Organization; Machine Learning and Data Mining; Computer Network Protocols	

TECHNICAL SKILLS

Java, Python, C Language, Assembly Language, MATLAB, Open MPI, OpenMP, Keras, Numpy, Scikit-learn, OpenCV, Jupyter Notebook, TensorFlow, Arduino, AWS

PROJECTS

Mushroom Classification Project , Machine Learning and Data Mining, Union College	<i>June 2019</i>
<ul style="list-style-type: none">Trained machine learning models in python to classify if a mushroom is poisonous base on its physical appearance with scikit-learn library on Jupyter NotebookNormalized dataset from UCI database, dealt with the missing data, and performed feature selection for input featuresReached a 98.5% classification accuracy and discovered most important features for the classification problem	
Bike Route Planner Project , Large Scale Software Design, Union College	<i>February 2019</i>
<ul style="list-style-type: none">Worked in a team of three and developed a bike route planner software in Java with graphical User Interface by JunitCollaborated with teammates to design the high level structure of the software with patterns including document-view, chain of responsibilities, observer patternsDesigned, implemented and tested the back end classes of the project including the route class, the route planning class and class for importing/exporting routes	
Tic Tac Toe Game Parallelization Project , Parallel Computing, Union College	<i>October 2018</i>
<ul style="list-style-type: none">Designed and implemented a Tic Tac Toe game that allows users to play against AI on Terminal on Minmax algorithm and customize the game board sizeRedesigned and implemented the same game in C language using Open MPIAchieved a sub-linear speedup for the computer move step	
Gesture Controlled Quadcopter System , Thesis Project, Union College	<i>September 2018 – May 2019</i>
<ul style="list-style-type: none">Collaborated with two other teammates to develop a quadcopter system that allows users to operate a quadcopter with one handCustomized the quadcopter and developed programs in C using Arduino to control the quadcopterHelped to design algorithms that capture hand gestures	
CPU Design Project , Computer Organization, Union College	<i>March 2018</i>
<ul style="list-style-type: none">Designed and implemented a 16-bit CPU that supports I-type, R-type and J-type instructions with a CLA adder on LogisimDeveloped an assembler for the CPU in Python	

RESEACH/TEACHING EXPERIENCE

Research Internship at IBM , Green Horizons Environmental Project, Beijing, China	<i>June 2018 – August 2018</i>
<ul style="list-style-type: none">Evaluated water quality by identifying bio-indicators using deep learning methodCollected, normalized and augmented image dataset using OpenCV in PythonBuilt, modified and fine-tuned CNN model VGG16 using Keras and TensorFlow for the image classification step	
LAB/Teaching Assistant for Computer & Logic Design and Embedded System , Union College	<i>September 2017 – May 2019</i>
<ul style="list-style-type: none">Demonstrated class contents and lab work to students and answer all their questionsTroubleshoot for circuits and circuits/logic gates upon software and debug C codeAnswered questions from students about lecture, electrical devices and different communication protocols	
Summer Research at Tsinghua University , Application developing of sensors, Beijing, China	<i>June 2016 – July 2016</i>
<ul style="list-style-type: none">Developed a system that guided autonomous cars by using 2-d distance sensorsExported data from the visual sensors and convert data into readable ASCII codeProcessed data and designed algorithms that guide the autonomous cars	

LEADERSHIP EXPERIENCE

President, Chinese Students and Scholars Association , Union College	<i>February 2015 - September 2017</i>
Captain of JuPeng Soccer Club Junior Team , Ji'An, Jiangxi, China	<i>August 2015 – September 2016</i>