

Education

Batavia High School

Graduated with Highest Honors and Class rank of 1

GPA: 4.375 (weighted)

August 2011 - May 2015

University of Illinois Urbana-Champaign

Bachelor of Science in Computer Science

Minor in Electrical and Computer Engineering, and Music

GPA: 3.88

August 2015 - May 2019

Work and Leadership Experience

Argonne National Laboratory

Research Aide

Lemont, IL

Jun 2017 - Aug 2017

- › Designed and implemented an algorithm in C++ for using a remote RAM pool to enable in situ processing.
- › Performed several experiments to test the algorithm's effectiveness.
- › Submitted a paper on my findings to the ISAV 2017 workshop as part of the SC17 conference.

Genesis Automation

Software Developer

St Charles, IL

Jun 2015 - Jan 2017

- › Programmed drivers and state machines to control the operation of the automation equipment.
- › Designed and implemented various applications to improve efficiency such as easier computer installation, an improved label printer, and a machine IO code formatter.
- › Worked with members of the sales department to develop macros for commonly used spreadsheet templates and several web applications to replace their paper versions.
- › Designed a method for the machine's code to compile and execute DLL scripts.

iRobotics

Programming Lead

Urbana, IL

April 2016 - Present

- › Hosted programming sub-team meetings and developed training material for new members.
- › Wrote the software architecture to section the code into individually assignable segments.

FRC Robotics

Programming Director

Batavia, IL

December 2013 - April 2015

- › Wrote and integrated code from the other eight members of the programming team.
- › Participated in board meetings and built the team infrastructure.

Skills

Programming Languages: C++, Python, Java, C#, Haskell, R, Matlab, SQL, PHP, JavaScript, GLSL, Batch, Bash, Lua

Low-Level Languages: C, x86 Assembly, Z80 Assembly, MIPS Assembly, 6502 Assembly

Markup and Hardware Description Languages: Latex, HTML, Markdown, Verilog

APIs: MPI, OpenMP, Charm++, SFML, OpenCV

Environments: Git, Unity, Arduino, Make, CMake, Android, Visual Basic, OpenOffice Basic, Pure Data

Software Tools: Eagle, SolidWorks, Autodesk Inventor, Audacity, MuseScore

Independent Projects

Swerve Drive Demonstration: Developed a Java application to demonstrate the functionality of a drive system constructed for robotics.

Euler Problems: Solved a series of hard mathematical and computing problems in order to improve my skills in Java, C++, and Haskell.

Various Puzzle Solvers: Designed and wrote several complex algorithms to solve puzzles such as a Rubik's Cube, a minesweeper variant, and a game of Tetris.

Math Program: Created a math program for the TI-83+ to complete math homework faster. Ported to Z80 assembly to improve operational speed and add features not previously possible.