

## 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 an algorithm for using a remote RAM pool to enable in situ processing.
- › Performed several experiments to test the algorithm's effectiveness.
- › Submitted a paper 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

**Compiled Languages:** C++, Java, C#, GLSL, Haskell

**Interpreted Languages:** Python, R, Matlab, SQL, PHP, JavaScript, 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

## Selected Independent Projects

**Swerve Drive Demonstration Game:** Developed a Java game to demonstrate the functionality of a drive system constructed for a robotics competition.

**Glory:** Worked with a team of 3 to make a 3D wave based survival game in Unity for a 12-hour gamebuild-a-thon with the theme of Glory.

**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.