

## Honors in Computer Science

In this semester-long experience, Honors in Computer Science students engage in an independent project in an area of interest that utilizes computer programming or a topic within computer science. Projects are required to be authentic and serve the school in some way. To receive the honors distinction, students must utilize the computer programming and computer science skills and concepts that would be expected from an industry professional working on a similar real-world project.

Projects follow one of two different pathways. Students interested in a field that utilizes computer programming do research on models and strategies that are used in that field, and then create their own working program that utilizes those models and/or data. Past students have investigated machine learning, space utilization, Rubik's cube strategies, neural networks, and economic outcomes. The second type of project partners with our Information Technology department on campus and answers a need that the community has. Examples of this type of project would be the creation of an app that allows a person on duty in a dorm or barrack to communicate to all the appropriate adults about what went on during that time, as well as a streamlined way for advisors of clubs to update attendance in clubs on our integrated network. These projects leave lasting improvements to the Culver community.

Selected work 2021-present:

Creating a Rubik's Cube Solver in C# - Brendan Jarmusz

Deep Neural Network and Beyond- Michael Liu

A Construction of Biology-Mimicking Intelligence - Tim Lin

Social Distancing Calculator - William Wei

A Mathematical Analysis of Techniques in Real Time Detection - Michael Liu