Two student projects—one using the study of human movement over space and time, and the other an interactive virtual reality experience for the composition of scattering algorithms—are the top winners in a Vanderbilt student data visualization competition held in conjunction with the campus exhibition Plane and Spaces: Mapping Science.

The student competition was the first in a series of activities held this semester on the campus, which includes an exhibit of Vanderbilt’s Albert Sloan Center, Read, Hold, the Harp, and the Central Library through April 23.

New students from a variety of schools and majors were recognized April 17 during a celebration of the final day of the art exhibit "The scalp, the eye, and the order of change," which is part of the "Art of the Southeast," an annual art exhibition of student work in a variety of media.

"We are delighted to be able to honor these students and their work as part of our celebration of the creativity and innovation that is a hallmark of the student body," said Maitland D. Brugger, director of the Albert Sloan Center, which sponsored the annual art exhibition.

Two of the student projects are now part of the exhibit Plane and Spaces: Mapping Science, which will feature the student projects and an interactive virtual reality experience for the composition of scattering algorithms.

"This project of mapping students' educations, research areas, and designers shows how you young children's animal movements patterns in planes like few researchers or school teachers are fairly or foolish behavior," said Brugger. "Instead, these young researchers have reflected carefully on the interactions we have between our own and other people's engaging or insight-giving work.

A second part of the project includes a variety of digitally generated images and objects with a series of challenging activities on the theme of finding new ideas on design and thinking about data science. What is interesting is that these maps can be used to generate complex forms of data, which can help researchers to design better ideas and thinking about data science.

The next project shows a way to think of the brain and the body in terms of the brain and the body's virtual reality. This is a very different approach to thinking about data science. A second part of the project includes a variety of digital images and objects with a series of challenging activities on the theme of finding new ideas on design and thinking about data science. What is interesting is that these maps can be used to generate complex forms of data, which can help researchers to design better ideas and thinking about data science.

The best data visualization by an Undergraduate Student award went to Blake Eager, who is majoring in computer science in the School of Engineering, for exploring the complexity and utility of sorting various algorithms with his interactive visualization. Olgay had examples of sorting five numbers in increasing order. "Overall, this is a problem that is too hard to solve with a direct solution, yet it is not hard to solve with a direct solution.

The generated programs on Olgay's webpage show the size of a task on the x-axis and the number of tasks on the y-axis. By visualizing, along with a benchmark of C/ and C++ programming languages, the users choose from four sorting algorithms, six different data distributions, four different modes and three different orders of complexity (best-case and worst-case). The next step is to understand how different orderings in algorithmic differences.

Examples Olgay gave the need for the sort algorithm to be able to connect with a corporate email account as Olgay noted, the two algorithms are the only ones that are packaged (commercially), or a telecommunication that automatically makes the best of containing an Earth's Plain planet. "In these situations, the need for sorting may be as low as two, but becomes necessary," Olgay added.

Other undergraduate student winners were:
- Teena Bevan, coding engineering, School of Engineering, second place.
- Amber Rivers, civil engineering, School of Engineering, and Law, third place.
- Bevan, Matt and Li Tat, both math and psychology double majors in the College of Arts and Science, tied for fourth place.

Other graduate and professional student winners were:
- Blake Eager, Department of Computer Science, second place.
- Olgay Olgay, Department of Computer Science, second place.

Other events during the exhibition included an interactive keynote by Ryan Bizer, data visualization workshops and a panel discussion on data photography.

The exhibition and competition were sponsored by the Wild Bush Fund, established in 1997 to honor the late Dr. Lillian D. M. Clark, who founded and directed the center's Albert Sloan Center and Vanderbilt's Harp, Hold, the Harp, and the Central Library through April 23.

"In addition to our leadership role on campus, we become known for being fun and pulling pranks," Bizer said. "However, our true legacy was being enthusiastic friends with Chancellor Howard and enjoying the many events and conversations that continue to thrive. They include the Wild Bush Book Bash—formed to spark discussion and dialogue on campus and to encourage people think in less traditional ways.

For more information, email Colga Walker.