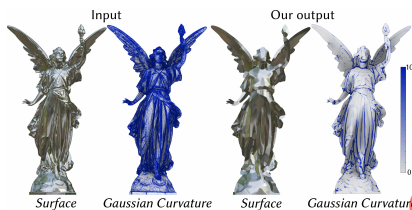
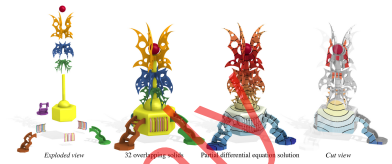


Solid Geometry Processing on Deconstructed Domains

The publication of this paper was the outcome of a year-long project which started with my participation in the 2017 Fields Undergraduate Summer Research Program. While the two-month program itself was team-based, the vast majority of the work on to this project was carried out after it ended, when I was the sole student dedicated to it. With the help of my research advisor Alec Jacobson and my own work ethic, I managed to combine my undergraduate studies with programming the main method described in the paper, as well as writing initial drafts of the technical paper that were then reviewed by my advisor. We selected the *Computer Graphics Forum* journal and the *Symposium on Geometry Processing* conference as venues since they are the most prestigious ones dedicated specifically to Geometry's applications to Computer Graphics. The publication of this paper had an immense impact in my career aspirations, given that it was a publication completed entirely during my undergraduate studies and it made for a strong graduate school application, to the point that I got accepted into the three institutions I applied for (the University of Toronto, UBC and MIT).



Developability of Heightfields via Rank Minimization

This paper was published in *ACM Transactions on Graphics* and presented at *SIGGRAPH 2020*, the biggest venue in the world for Computer Graphics research. The work was the outcome of my 2019 internship at Adobe Research, under the supervision of Noam Aigerman. It was my first collaboration with an industry partner outside of academia, which not only opened doors for me but also ended in a complete success, with a US patent pending for use within Adobe products. As the only student working on the project, I took on all of the programming tasks, devised and constructed all the methods and results shown in the paper. The writing of the text of the paper was a joint work between me, Dr. Aigerman and Prof. Jacobson.

Opening and Closing Surfaces

This paper will be published in *ACM Transactions on Graphics* and presented at *SIGGRAPH Asia 2020*, the biggest venue in the world for Computer Graphics research. It is the outcome of a project which began in 2018, and in which I have been working almost independently since then, with the occasional guidance from my now PhD advisor Alec Jacobson. All of the work I put in this project happened simultaneously to me working on different projects (like the two above) and my undergraduate studies, which meant I had to have an excellent handle on priorities and time management to take it over the finish line. While it is too soon to tell what its impact is going to be, the fact that it was published in such a reputable is evidence that our core mathematical idea is deemed of interest to the Computer Graphics community, and its most immediate industrial applications will soon be validated.

