Abstract:

3D printing, or addictive fabrication in general, often serves as an important bridge that connects the digital world with the physical world. Artists often rely on a number of 3D tools to create and analyze their design so that it can withstand the uncompromising test of physics once fabricated. The correctness and robustness of such 3D tools become increasingly crucial for the success fabrication. In this talk, I will address some of the challenges and opportunities related to applying geometry processing algorithms for computational fabrication, including structural analysis, mesh clean up and robust tetrahedralization for finite element method.

About the Speaker:

Qingnan (James) Zhou is a research engineer at Adobe Research in San Francisco. His research interests include robust geometry processing, computational fabrication, physics simulation and cloud computing. He received his PhD from the Courant Institute of Mathematical Sciences at New York University in 2016. Before that he earned his master degree from University of British Columbia in 2009 and bachelors degree from University of Waterloo in 2007. Qingnan is also the author of the open source library PyMesh.