Mark Gillespie

Curriculum Vitae

Education

2018–Present **PhD Computer Science**, *Carnegie Mellon University*, Pittsburgh.
Advisor: Keenan Crane. Topics: geometry processing, computer graphics

2014–2018 **B.S. Computer Science, Mathematics**, *California Institute of Technology*, Pasadena, Double major. GPA: 4.1.

Publications

Feng, Nicole, Mark Gillespie, and Keenan Crane (July 2023). "Winding Numbers on Discrete Surfaces". In: *ACM Trans. Graph.* 42.4, pp. 1–17. DOI: 10.1145/3592401.

Liu, Hsueh-Ti Derek, Mark Gillespie, Benjamin Chislett, Nicholas Sharp, Alec Jacobson, and Keenan Crane (July 2023). "Surface Simplification Using Intrinsic Error Metrics". In: *ACM Trans. Graph.* 42.4, pp. 1–17. DOI: 10.1145/3592403.

Gillespie, Mark, Nicholas Sharp, and Keenan Crane (Dec. 2021). "Integer Coordinates for Intrinsic Geometry Processing". In: *ACM Trans. Graph.* 40.6, pp. 1–13. DOI: 10.1145/3478513.3480522.

Sharp, Nicholas, Mark Gillespie, and Keenan Crane (2021). "Geometry Processing with Intrinsic Triangulations". In: SIGGRAPH '21. DOI: 10.1145/3450508.3464592.

Gillespie, Mark, Boris Springborn, and Keenan Crane (July 2021). "Discrete Conformal Equivalence of Polyhedral Surfaces". In: *ACM Trans. Graph.* 40.4, pp. 1–20. DOI: 10.1145/3450626.3459763.

Experience

2018–Present **Graduate Researcher**, *Carnegie Mellon University*, Advisor: Keenan Crane.

July 2023 **Visiting Researcher**, *Technische Universität Berlin, Berlin*, Host: Boris Springborn.

Summer 2022 **Visiting Graduate**, *University of California, San Diego*, Host: Albert Chern.

Summer 2017 **Arthur R. Adams Undergraduate Researcher**, *Caltech*, Mentor: Peter Schröder.

Summer 2016 **Arthur R. Adams Undergraduate Researcher**, *Caltech*, Mentor: Mathieu Desbrun.

2016–2017 **Undergraduate Researcher**, *Caltech*, Mentor: Alan Barr.

Summer 2015 **Software Engineering Intern**, *Google*.

Talks

Sept. 2023 **Intrinsic Triangulations in Geometry Processing**, *IST Austria*.

Aug. 2023 **Intrinsic Triangulations in Geometry Processing**, *Geometry Workshop in Obergurgl*.

Jul. 2023 **Intrinsic Triangulations in Geometry Processing**, *TU Berlin SFB TRR 109 Colloquium*.

Apr. 2022 **Discrete Conformal Equivalence of Polyhedral Surfaces**, *UCSD Pixel Cafe*.

Nov. 2021 **Integer Coordinates for Intrinsic Geometry Processing**, *ACM SIGGRAPH Asia 2021*.

Aug. 2021 **Discrete Conformal Equivalence of Polyhedral Surfaces**, *ACM SIGGRAPH 2021*.

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Aug. 2021 **Geometry Processing with Intrinsic Triangulations**, *ACM SIGGRAPH Courses (SIGGRAPH 2021)*.

June 2021 **Geometry Processing with Intrinsic Triangulations**, *International Meshing Roundtable Courses (IMR 2021)*.

Awards/Fellowships

2019-2022 **NSF Graduate Research Fellowship**

2016-2017 **Arthur R Adams SURF Fellow**

2017 **SIGGRAPH ACM Turing Award Celebration Grant**

2016 **William Lowell Putnam Mathematics Competition** *31 points (rank: 365/3214)*

Service

Reviewer SIGGRAPH (2019, 2022, 2023), SIGGRAPH Asia (2022, 2023), Computer-Aided Design (2023), Transactions on Visualization and Computer Graphics (2023), Computers & Graphics (2021)

Departmental Organizer, Graphics Seminar (2020-2021); Organizer, Graphics Reading Group (2022-2023)

Programming Languages

C/C++, Python, Java, Mathematica, Matlab, Haskell, Ocaml, LaTeX