

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

- Nicole Feng, **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](https://doi.org/10.1145/3592401).
- Hsueh-Ti Derek Liu, **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](https://doi.org/10.1145/3592403).
- Mark Gillespie**, 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](https://doi.org/10.1145/3478513.3480522).
- Nicholas Sharp, **Mark Gillespie**, and Keenan Crane (2021). “Geometry Processing with Intrinsic Triangulations”. In: SIGGRAPH ’21. DOI: [10.1145/3450508.3464592](https://doi.org/10.1145/3450508.3464592).
- Mark Gillespie**, 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](https://doi.org/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*.

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

Departmental Graphics seminar organizer (2020-2021), Graphics reading group organizer (2022-2023), Student panel speaker (CSD Visit Day 2020, 2023, CSD Introductory Course 2022)

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

Programming Languages

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