MICHELE VIDULIS

PhD Student @ EPFL | Computer Science

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Website
LinkedIn
GitHub

RESEARCH INTERESTS

Optimization, Physics-Based Simulation, Inverse Problems, Computational Design and Fabrication, Computer Graphics

SELECTED PUBLICATIONS

C-Tubes: Design and Optimization of Tubular Structures Composed of Developable Strips
Michele Vidulis*, Klara Mundilova*, Quentin Becker*, Florin Isvoranu, Mark Pauly
ACM Transactions on Graphics (SIGGRAPH 2025) – Best Paper Award (Honorable Mention)

Tencers: Tension-Constrained Elastic Rods
Liliane-Joy Dandy*, **Michele Vidulis***, Yingying Ren, Mark Pauly
ACM Transactions on Graphics (SIGGRAPH Asia 2024)

Computational Exploration of Multistable Elastic Knots
Michele Vidulis, Yingying Ren, Julian Panetta, Eitan Grinspun, Mark Pauly
ACM Transactions on Graphics (SIGGRAPH 2023)

*equal contribution

RESEARCH EXPERIENCE

2021 - *Present* — **PhD Student, Geometric Computing Laboratory, EPFL** — Advised by Prof. **Mark Pauly**
Physics-based simulation and computational design

Spring 2025 — **Research intern, Disney Research | Studios** — Advised by Dr. **Vinicius Da Costa De Azevedo**, Dr. **Jingwei Tang**
Real-time neural simulation

EDUCATION

2019 - 2021 — **MSc, EPFL**
Computational Science and Engineering (GPA: **5.8/6**)

2018 - 2019 — **MSc, Politecnico di Milano**
Computational Science and Computational Learning (GPA: **29.7/30**)

2015 - 2018 — **BSc, Politecnico di Milano**
Mathematical Engineering (GPA: **29.4/30**)

SELECTED PROJECTS

Fall 2024 — **Neural Latent-Space Physical Simulation** — Student project, advisee: **Antoine Tran**
Reduced order modeling for efficient physics-based simulation

Spring 2024 — **Smooth-Rolling Knots** — Student project, advisee: **Max Brodeur**
Simulation and geometric optimization of space curves with smooth rolling behavior
Published at *Bridges 2025: Mathematics and the Arts*

Spring 2020 — **Topology Optimization for 3D Printing** — Geometric Computing Laboratory (EPFL), Prof. **Julian Panetta**
FEM-based fabrication-aware inverse design of compliant elastic structures

Fall 2019 — **Anomaly Detection in Energy Consumption Time Series** — LESO-PB (EPFL), Dr. **Roberto Castello**
Statistical analysis of time series and design of problem-specific anomaly detection metrics
Published at the *International Conference on Applied Energy 2020*

Spring 2019 — **Machine Learning for Stabilization of Advection-Diffusion PDEs** — MOX (PoliMi), Prof. **Luca Dedè**
Optimal stabilization of numerical PDEs via neural networks

Spring 2018 — **A Mathematical Model for Traffic Jams** — BSc Thesis, MOX (PoliMi), Prof. **Lorenzo Valdettaro**
Fluid-based traffic simulator modelling shock waves

TEACHING

Geometric Computing, Computer Graphics, Theory of Computation, Advanced Information and Computation

AWARDS and HONORS

2024 — *EPFL Teaching Assistant Award*
2021 — *EPFL EDIC Fellowship*
2019 - 2020 — *EPFL Excellence Fellowship*
2015 - 2019 — *PoliMi Student with Particularly High Merit (GPA > 29/30)*
2015 — *PoliMi Best Freshmen Award*