

# Ruben Wiersma

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I am a third-year PhD student in computer graphics at the TU Delft. My interests include geometry processing, animation, simulation, and machine learning. I have gathered experience as a programmer, graphic designer, and filmmaker during my undergraduate years. You can find some examples of my creative work on my portfolio.

## SKILLS AND QUALITIES

Strong math understanding • Ability to understand and analyze complex systems • Eye for clean, maintainable, and understandable code - [example project](#) • Creative thinking • Presentation and communication - [example presentation](#) • Perseverance • C++ • Python • Linux • macOS • Blender • Adobe CC • Piano

## EDUCATION

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### [2019 - present] PhD Computer Graphics

TU Delft Supervised by Elmar Eisemann, Klaus Hildebrandt and Joris Dik

- Studying fundamentals and applications of geometric deep learning (two SIGGRAPH publications).
- Studying applications of computer graphics and machine learning for painting analysis.
- Additional responsibilities: lecturing, lab assistance, creating assignments.
- Toolkit: Python, PyTorch, C++, OpenGL.

### [2017 - 2019] MSc Computer Science *Cum Laude* (GPA 4.0)

TU Delft

- Focus on computer graphics and machine learning.
- Thesis (grade 9/10) “Harmonic Surface Networks” [[PDF download](#)].
- Toolkit: C++, Python, PyTorch.

### [2014 - 2017] BSc Computer Science *Cum Laude* (GPA 4.0)

TU Delft

- Focus on multimedia and data science.
- Thesis on “Automating Valuations for Real-Estate” [[PDF download](#)].

### [2013 - 2014] Propedeuse Industrial Design Engineering *Cum Laude*

TU Delft

## EXPERIENCE

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### [2019] Teaching Assistant

TU Delft

- Developed assignments for new datamining and Machine Learning courses and lab assistance.
- Toolkit: Python, Jupyter, NumPy

## **[2017] Development Internship**

*GeoPhy*

- End-to-end machine learning solution for estimating real-estate value.
- Toolkit: Scala, Apache Kafka.

## **[2012 - present] Video producer, graphic designer**

*Wiersma Brothers, Torchbearers International, freelance*

- Wiersma Brothers: founder, working on short films, graphic design and web development.
- Torchbearers International: creative director and web development. View [samples of my work](#).

## **[2008-2010] Programmer**

*GoPublic*

- Back-end developer for websites and business administration webapps.
- Toolkit: PHP, JavaScript, HTML.

## **SERVICE**

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### **[Summer 2022] Summer Geometry Initiative (SGI) mentor**

- Mentored fellows of SGI in a project on “Learning on Surfaces”

### **[2020 - present] Committee member**

*SIGGRAPH research and career development committee*

- Organized Conference Coffee at SIGGRAPH ‘21, SIGGRAPH Asia ‘21 and SIGGRAPH ‘22.
- Production/writing for website, Thesis Fast Forward, and SIGGRAPH/ToG writing guides.

### **[2020 - present] Reviewer**

*ACM Transactions on Graphics, SIGGRAPH Asia, Pacific Graphics*

### **[2013 - 2019] Committee member, committee chair**

*C.S.R. Delft (student association)*

- Organized festivities, academic debates and hosted lectures (20-300 participants).
- Produced several narrative short films and an anniversary book.

### **[2014 - 2017] Restaurant staff manager, PR**

*Happietaria, Hartige Samaritaan*: pop-up restaurants for charity, lasting one month.

- Together with all the volunteers for Happietaria, raised €78.913.
- Staff and communications manager for Hartige Samaritaan (November 2014, February 2017).

## **PUBLICATIONS**

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### **[GCH ‘22] A New Baseline for Feature Description on Multimodal Imaging of Paintings**

*September 2022*

[SIGGRAPH '22] [DeltaConv: Anisotropic Operators for Geometric Deep Learning on Point Clouds](#)

July 2022

[CVPR '22] [Deep Vanishing Point Detection: Geometric priors make dataset variations vanish](#)

July 2022

[SIGGRAPH '20] [CNNs on Surfaces using Rotation-Equivariant Features](#)

July 2020

[Heritage Science] [Revealing unique inscriptions of in Doodencel 601 of the Oranjehotel](#)

July 2020

[SIGCSE '20] [Are We Consistent? The Effects of Digitized Exams Grading](#)

February 2020

[Master's thesis] [Harmonic Surface Networks](#)

October 2019

## GRANTS

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Google Cloud Research credits

October 2019, October 2020

## TALKS

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6th April 2022, UChicago 3DL group

Invited talk: DeltaConv: Anisotropic Operators for Geometric Deep Learning on Point Clouds

29th September 2021, Mathematics and Art symposium at DMV ÖMG Annual Conference 2021

Symposium talk: [Communicating Perspective in 17th Century Paintings to Modern Audiences.](#)

17th May 2021, Utrecht University

Lecture on applications of computer graphics to painting analysis for bachelor students in art history.

27th September 2020, PI Lab TU Delft

Seminar talk: applications of computer graphics to painting analysis.

14th May 2020, Stanford Guibas Lab

Invited talk: [CNNs on Surfaces using Rotation-Equivariant Features](#)