

# Emilie Yu

University of California Santa Barbara, USA

Curriculum Vitae

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## Education

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### Inria, Université Côte d'Azur [↗](#)

2020 - 2023

PhD in Computer Science – supervised by Adrien Bousseau

### Technical University of Denmark [↗](#)

2018 - 2020

MSc in Digital Media Engineering – Master thesis supervised by J. Andreas Bærentzen

### CentraleSupélec

2015 - 2017

BSc and MSc in Engineering – 3rd top Engineering School in France

## Research Experience

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### UCSB – Expressive Computation Lab

May 2024 - now

Postdoctoral researcher – supervised by Jennifer Jacobs

### University of Toronto – Dynamic Graphics Project

Summer 2023

Visiting Researcher – supervised by Fanny Chevalier and Karan Singh

### Adobe Research

Summer 2022

Research Intern – supervised by Rubaiat Habib Kazi and Wilmot Li

### Inria, Université Côte d'Azur

Feb. 2020 - Aug. 2020

Research Intern – supervised by Adrien Bousseau

## Publications

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### StepDance: A Toolkit for Redesigning CNC Machines Using Physical Metaphors

Ilan E Moyer, Emilie Yu, Devon Frost, Maria Yang, Jennifer Jacobs

In Proceedings of the ACM Conference on Human Factors in Computing Systems, CHI '26

[↗](#) webpage `</>` code

### Clay ARtools: Precise Machine Toolpath Editing for Clay 3D Printing With Craft-Inspired Direct Manipulation Tools in AR

Joyce E Passananti, Emilie Yu, Timea Tihanyi, Tobias Höllerer, Jennifer Jacobs

In Proceedings of the ACM Conference on Human Factors in Computing Systems, CHI '26

[↗](#) webpage

### WORM: Programming Collaborative Robots Through Manual Actions for Craft-Aligned Digital Fabrication

Samuelle Bourgault, Alejandro Aponte, Megumi Ondo, Emilie Yu, Jennifer Jacobs

In Proceedings of the ACM Symposium on User Interface Software and Technology, UIST '25

[↗](#) webpage [📄](#) paper

### Towards a sustainable use of GPUs in Graphics Research

Emilie Yu\*, Élie Michel\*, Octave Crespel, Axel Paris, Felix Hähnlein (\* equal contribution)

SIGGRAPH Talk 2025

[↗](#) webpage [📄](#) paper `</>` code

### texTile: Making and Re-making Crochet Granny Square Garments Through Computational Design and 3D-printed Connectors

Ashley Del Valle, Jennifer Jacobs, Emilie Yu

In Proceedings of the ACM Conference on Designing Interactive Systems (DIS), 2025

[↗](#) webpage [📄](#) paper

### 3D-Layers: Bringing Layer-Based Color Editing to VR Painting

Emilie Yu, Fanny Chevalier, Karan Singh and Adrien Bousseau

ACM Transactions on Graphics, presented at SIGGRAPH 2024

[↗](#) webpage [📄](#) paper `</>` code

## VideoDoodles: Hand-Drawn Animations on Videos with Scene-Aware Canvases

Emilie Yu, Kevin Blackburn-Matzen, Cuong Nguyen, Oliver Wang, Rubaiat Habib Kazi and Adrien Bousseau

ACM Transactions on Graphics, presented at SIGGRAPH 2023

[webpage](#) [paper](#) [code](#)

## Piecewise-Smooth Surface Fitting onto Unstructured 3D Sketches

Emilie Yu, Rahul Arora, J. Andreas Bærentzen, Karan Singh, and Adrien Bousseau

ACM Transactions on Graphics, presented at SIGGRAPH 2022

[webpage](#) [paper](#) [code](#)

## CASSIE: Curve And Surface Sketching in Immersive Environments

Emilie Yu, Rahul Arora, Tibor Stanko, J. Andreas Bærentzen, Karan Singh, and Adrien Bousseau

In Proceedings of the ACM Conference on Human Factors in Computing Systems, CHI '21

[webpage](#) [paper](#) [code](#)

## Professional Experience

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### Unity Technologies

2019 - 2020

Continuous integration, continuous deployment – *Infrastructure support and software development*

### Datawords

Jul. 2017 - Dec. 2017

Fullstack web developer

### Août Secours Alimentaire (food aid association)

Summer 2016

Logistics assistant manager

## Awards

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### PhD Dissertation Award – french Informatics Society (SIF) [↗](#)

2024

Awarded based on the thesis manuscript and jury report.

### PhD Dissertation Award – french Computer Graphics Association (GdR IG-RV) [↗](#)

2024

Awarded based on the thesis manuscript and jury report.

### Best Demo Award at IHM 2024

2024

VideoDoodles: Hand-Drawn Animations on Videos with Scene-Aware Canvases

Francophone human-computer-interaction conference (IHM 2024)

*Best out of 45 demos*

### Mitacs Globalink Research Award

2023

Awarded for a 3-months research collaboration at the University of Toronto – 6,000 CAD

### WiGRAPH Rising Stars in Computer Graphics [↗](#)

2022 - 2023

Academic Career Workshop in Siggraph – *Travel funding for attending Siggraph twice*

### Recipient of Best Paper Honorable Mention Award

2021

CASSIE: Curve And Surface Sketching in Immersive Environments

ACM Conference on Human Factors in Computing Systems (CHI).

*Top 5% of submissions*

## Teaching

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### Digital Fabrication – Media Arts and Design undergraduate minor, UCSB

Summer 2025

Co-lecturer

### Object Oriented Programming – MIAGE BSc/MSc program, Polytech Nice

2021-2023

Teaching Assistant

### Computer Graphics Introduction – MSc, Technical University of Denmark

Fall 2019

Teaching Assistant

## Service & Volunteering

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### Program committee member

2025 - now

Eurographics 2026, ACM TEI 2025 Papers track, ACM DIS 2025 Pictorials track

## External reviewer

2021 to now

ACM SIGGRAPH/SIGGRAPH ASIA 2025, ACM Transactions on Graphics 2025, Eurographics 2024 / 2025, Pacific Graphics 2023 / 2024, ACM CHI 2024 / 2025 / 2026 (3 Special Recognitions), ACM UIST 2021 / 2023 / 2024 (3 Special Recognitions), ACM DIS 2022 / 2026 (1 Special Recognition), ACM SCF 2025, ACM C&C 2021, ACM IMX 2024, IEEE ISMAR 2024, IEEE VR 2025, ACM SIGGRAPH Posters 2023 / 2024 / 2025.

## SIGGRAPH Birds of a Feather – Sustainable Graphics Research

2025

Main organizer and discussion leader.

## Executive Committee – WiGRAPH (ACM Community Group for Women in Computer Graphics Research)

2024-now

Online Presence and Outreach Coordinator.

## Volunteer for WiGRAPH

2022-2024

Assist in the organization of the yearly Berthouzoz Women in Research Lunch at Siggraph 2022, 2023 and 2024.

## Student volunteer at conferences

2019-2022

Eurographics 2019, JFIG 2021, Eurographics 2022

## Invited talks

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### Designing digital representations for digital art & computer-aided manufacturing

HCI Sorbonne group seminar – invited by Baptiste Caramiaux

Virtual – Oct. 2025

LIX group seminar – invited by Damien Rohmer and Vicky Kalogeiton

Saclay – Jul. 2025

SIGCHI Paris Chapter – invited by Theophanis Tsandilas

Saclay – Jul. 2025

LIRIS HCI & Graphics research group seminar – invited by Aurélien Tabard and Franck Davoine

Lyon – Jun. 2025

### Designing tools for 3D content authoring based on 3D sketching

Congrès de la SIF – PhD award ceremony

Virtual – Jun. 2025

Journées françaises de l'informatique graphique – PhD award ceremony

Virtual – Oct. 2024

Graphics And Mixed Environment Symposium webinar – invited by Zeyu Wang

Virtual – Jul. 2024

University of California Santa Barbara – invited by Jennifer Jacobs and Tobias Höllerer

Santa Barbara (USA) – Aug. 2023

University of British Columbia – invited by Alla Sheffer

Vancouver (Canada) – Jul. 2023

### VideoDoodles: Hand-Drawn Animations on Videos with Scene-Aware Canvases

Inria ex)situ lab – invited by Theophanis Tsandilas and Wendy Mackay

Palaiseau (France) – May 2023

Inria MFX lab – invited by Sylvain Lefebvre

Nancy (France) – May 2023

Technical University of Denmark Christmas Workshop 2022 – invited by J. Andreas Bærentzen

Lyngby (Denmark) – Dec 2022

### VR Sketching for Surface Modeling

University of Surrey SketchX virtual seminar – invited by Yulia Gryadistskaya

Virtual – Sep. 2022

### CASSIE: Curve And Surface Sketching in Immersive Environments

Toronto Geometry Colloquium – opener talk

Virtual – Oct. 2021

JFIG 2020 – presentation to the french computer graphics community

Virtual – Nov. 2020

## Workshops, Courses

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### Programming machine control systems workshop

2025

Hosted by Neil Gershenfeld in the “How To Make Almost Anything” class, in the MIT Media Lab  
Ilan Moyer, Emilie Yu, Devon Frost, and Jennifer Jacobs

### Computational craft: Computational fabrication methods for enabling craft production in textiles and ceramics [↗](#)

2025

ACM SIGGRAPH 2025 Courses

Jennifer Jacobs, Emilie Yu, Mackenzie Leake, Hannah Twigg-Smith, Nadya Peek, and Emily Whiting