

Yael Vinker

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Research Areas: Computer Vision & Graphics • Machine Learning • Generative Models (AI) • Visual Communication

ACADEMIC POSITIONS

Postdoctoral Associate, MIT CSAIL

2024–Present

Host: Prof. Antonio Torralba

EDUCATION

Ph.D. in Computer Science

2021–2024

Tel Aviv University, Israel

Advisors: Prof. Daniel Cohen-Or and Prof. Ariel Shamir

Dissertation: “Generative Visual Communication in the Era of Vision-Language Models”

M.Sc. in Computer Science

2019–2021

The Hebrew University of Jerusalem, Israel

Advisor: Prof. Raanan Fattal

Thesis: “Unpaired Learning for High Dynamic Range Image Tone Mapping”

B.Sc. in Computer Science and Visual Communication

2016–2019

The Hebrew University of Jerusalem and Bezalel Academy of Arts and Design, Israel

Magna cum laude. GPA: 94/100

AWARDS & HONORS

EXCELLENCE AND RECOGNITION AWARDS

Rising Star in EECS, MIT, 2024 ([link](#))

Blavatnik Prize for Outstanding PhD Students in Computer Science, 2024

Awarded to 4 Ph.D. students annually

Outstanding Reviewer, CVPR 2025

PAPER AWARDS

Best Paper Award, ACM Transactions on Graphics (TOG), SIGGRAPH Asia 2023

Concept Decomposition for Visual Exploration and Inspiration

Honorable Mention Best Paper Award, ACM Transactions on Graphics (TOG), SIGGRAPH 2023

Word-as-Image for Semantic Typography

Best Paper Award, ACM Transactions on Graphics (TOG), SIGGRAPH 2022

CLIPasso: Semantically-Aware Object Sketching

FELLOWSHIPS & SCHOLARSHIPS

Eric and Wendy Schmidt Postdoctoral Award, 2024

Tel Aviv University President's Award for Outstanding Postdoctoral Students Abroad, 2024

Nominated for the Fulbright Postdoctoral Fellowship, 2024

VATAT Scholarship for Outstanding Female PhD Candidates, 2023

Awarded to 3 PhD students annually

TEACHING

Lecturer, Tel Aviv University	Spring 2023, Spring 2024
Deep Neural Networks for Computer Graphics (0368308901)	
Main lecturer. Developed the course syllabus and presentations, and managed logistics	
The course had 50-60 participants each year and received high ratings from students (6.89/7)	
Teaching Assistant, Tel Aviv University	2022–2024
Seminar in Neural Networks-Based Graphics (0368371301)	
Lecturer, Reichman University	July 2024
Workshop on Generative AI and Diffusion Models	
Main lecturer for 20 graduate students. Developed the course syllabus and presentations, and managed logistics	

WORK & RESEARCH EXPERIENCE

Google Research	2022–2023
<i>Student Researcher, Creative Camera team, Google Tel Aviv</i>	
Worked under Dr. Yael Pritch Knaan. Researcher in the field of generative models and VLMs	
École Polytechnique Fédérale de Lausanne (EPFL)	Summer 2021
<i>Research Intern, Summer@EPFL, Switzerland</i>	
Supervised by Prof. Amir Zamir at the Visual Intelligence and Learning Lab (VILAB)	
Disney Research	Spring 2021
<i>Research Intern, DisneyResearch/Studios, Zurich</i>	
Supervisors: Dr. Christopher Schroers and Dr. Roberto Azevedo	
Developed content-aware video compression models	
Software Engineering Intern, Google	
<i>LiveResults Proactive team, Google Tel Aviv</i>	July 2019–March 2020
<i>OneGoogle team, Google Tel Aviv</i>	August 2018–January 2019

GRANTS & FUNDING

Designing for Sustainability MIT-HPI Research Program	2025–2026
<i>Awarded \$200,000</i>	
Project: Developing Whiteboard-Literate AI for Equitable and Accessible Education. Contributed to the project concept and proposal development. Awarded under PIs Prof. Antonio Torralba and Prof. Gerard de Melo	
BioRender Research Funding	2025–2026
Support for Visual Communication Research.	
Industry collaboration on generating scientific illustrations.	

INVITED TALKS & SEMINARS

Bridging Generative Models and Visual Communication	
University of Toronto, Graphics Seminar	December 2025
TTIC Young Researcher Seminar	November 2025
Text-to-Image Personalization for Visual Design	
AI Safety & Quality Seminar at Adobe	December 2025
Computational Models of Line Drawings: From Perception to Synthesis	
TTIC Graduate Course on Generative Models, Art, and Perception	October 2025
AI for Visual Arts	
Keynote at the second AI for Visual Arts Workshop	ICCV 2025

Personalization for Creative Applications		ICCV 2025
Keynote at P13N: Personalization in Generative AI Workshop		
Visual Abstraction, Symbolism, and Narrative: Lessons from Comics for AI		ICCV 2025
Keynote at COMIQ: Comic Intelligence Quotient		
Synthetic Data in Creative Applications		CVPR 2025
Keynote at SynData4CV Workshop on Synthetic Data for Computer Vision		
Generative Models for Visual Communication		
Runway AI	May 2025	
MIT Creative Machine Learning for Design Course	April 2025	
Can AI Really Sketch? Advances in Generative Models for Sketching		
MIT CSAIL Vision-Graphics Seminar	April 2025	
Challenges and Advancements in Generative Models for Sketches		
MIT Face to Face https://artfinity.mit.edu/event/face-to-face	April 2025	
Generative Models for Visual Communication		
AI Vision Seminar, MIT Media Lab	November 2024	
CMU BIG Seminar (roBot Intelligence Group)	November 2024	
COGRAPH Workshop (link)		July 2024
An interdisciplinary workshop on the intersection of cognitive science and computer graphics		
Generative Visual Communication in the Era of Vision-Language Models		
Blavatnik Prize for Outstanding Israeli Doctoral Students in Computer Science	June 2024	
Generative Models for Creative Applications		
MIT CSAIL Vision-Graphics Seminar	March 2024	
MIT Media Lab	March 2024	
Graphics Cafe Seminar, Stanford University	March 2024	
Berkeley Computer Vision Seminar	March 2024	
Google VisCAM Seminar	March 2024	
Adobe Research GenTech Seminar	March 2024	
Generative Models for Abstractions		
Weizmann Vision and AI Seminar	January 2024	
CLIPasso and Word-As-Image		
Microsoft Data Science Bond	May 2023	
Lightricks Research Seminar	March 2023	
CLIPasso: Semantically-Aware Object Sketching		
Israeli Computer Vision Day (link to recording)	January 2023	

INTERVIEWS & MEDIA COVERAGE

MIT CSAIL News	June 2025
“Teaching AI Models the Broad Strokes to Sketch More Like Humans Do” (link to article)	
MIT CSAIL News	June 2025
Featured my work in the EECS Rising Stars article (link)	
Talking Papers Podcast	March 2023
Interview about CLIPasso with Itzik Ben Shabat (link)	
ACM SIGGRAPH Blog	November 2022
Interview about CLIPasso: “Abstraction: The Key to Semantic Sketching” (link to article)	
RSIP Vision Magazine	October 2022
Featured on the cover page with a full interview about CLIPasso (link to article)	

ACADEMIC SERVICE

SIGGRAPH Technical Papers Committee, 2025

Workshop Co-Organizer, SIGGRAPH 2025

“Drawing and Sketching: Art, Psychology, and Computer Graphics” (<https://lines-and-minds.github.io/>). An interdisciplinary workshop exploring the computational, creative, and cognitive aspects of drawings

Publicity Co-Chair, ICCV 2025

Reviewer for CVPR, ICCV, ECCV, SIGGRAPH, SIGGRAPH Asia, IEEE Transactions on Visualization and Computer Graphics (TVCG), ACM Transactions on Graphics (TOG)

MIT Face to Face Co-Organizer, 2025

An MIT-wide community drawing project inspired by Es Devlin, recipient of the 2025 Eugene McDermott Award in the Arts. <https://artfinity.mit.edu/event/face-to-face>

Mentor at the “Meduyakot” Program, Tel Aviv University, 2022–2024

Mentored female graduate students to promote leadership and inclusion of women in exact sciences

PUBLICATIONS

SIGGRAPH and **SIGGRAPH Asia** are the premier venues in computer graphics. Their journal-track papers are published in **ACM Transactions on Graphics (TOG)**, the flagship journal in the field (h5-index 114, ranked #1). **CVPR**, **ICCV**, and **ECCV** (h5-indices of 450, 256, and 262 respectively) are the top three venues in computer vision, with CVPR ranked #1 in computer science. **NeurIPS** (h5-index 371) is ranked #1 in artificial intelligence.

- [1] Mia Tang, **Yael Vinker**, Chuan Yan, Lvmin Zhang, and Maneesh Agrawala. “Instance Segmentation of Scene Sketches Using Natural Image Priors”. *ACM SIGGRAPH Conference Papers*. 2025.
- [2] **Yael Vinker**, Tamar Rott Shaham, Kristine Zheng, Alex Zhao, Judith E Fan, and Antonio Torralba. “SketchAgent: Language-Driven Sequential Sketch Generation”. *Proceedings of the Computer Vision and Pattern Recognition Conference (CVPR)*. 2025.
- [3] Ellie Arar, Yarden Frenkel, Daniel Cohen-Or, Ariel Shamir, and **Yael Vinker**. “SwiftSketch: A Diffusion Model for Image-to-Vector Sketch Generation”. *ACM SIGGRAPH Conference Papers*. 2025.
- [4] Sagi Polaczek, Yuval Alaluf, Elad Richardson, **Yael Vinker**, and Daniel Cohen-Or. “NeuralSVG: An Implicit Representation for Text-to-Vector Generation”. *Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV)*. 2025.
- [5] Rinon Gal*, **Yael Vinker***, Yuval Alaluf, Amit Bermano, Daniel Cohen-Or, Ariel Shamir, and Gal Chechik. “Breathing Life Into Sketches Using Text-to-Video Priors”. *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*. 2024. *Denotes equal contribution. **Spotlight Presentation (top 10%)**.
- [6] Yarden Frenkel, **Yael Vinker**, Ariel Shamir, and Daniel Cohen-Or. “Implicit Style-Content Separation Using B-LoRA”. *Proceedings of the 18th European Conference on Computer Vision (ECCV)*. 2024.
- [7] **Yael Vinker**, Andrey Voynov, Daniel Cohen-Or, and Ariel Shamir. “Concept Decomposition for Visual Exploration and Inspiration”. *ACM Transactions on Graphics (TOG)*. 2023. **Best Paper Award**.

- [8] Omri Avrahami, Amir Hertz, **Yael Vinker**, Moab Arar, Shlomi Fruchter, Ohad Fried, Daniel Cohen-Or, and Dani Lischinski. “The Chosen One: Consistent Characters in Text-to-Image Diffusion Models”. *ACM SIGGRAPH Conference Papers*. 2024.
- [9] Kushin Mukherjee*, Holly Huey*, Xuanchen Lu*, **Yael Vinker**, Rio Aguina-Kang, Ariel Shamir, and Judith Fan. “SEVA: Leveraging sketches to evaluate alignment between human and machine visual abstraction”. *Advances in Neural Information Processing Systems (NeurIPS)*. 2023. *Denotes equal contribution.
- [10] Shir Iluz*, **Yael Vinker***, Amir Hertz, Daniel Berio, Daniel Cohen-Or, and Ariel Shamir. “Word-As-Image for Semantic Typography”. *ACM Transactions on Graphics (TOG)*. 2023. *Denotes equal contribution. **Best Paper Honorable Mention Award**.
- [11] **Yael Vinker**, Yuval Alaluf, Daniel Cohen-Or, and Ariel Shamir. “CLIPascene: Scene Sketching with Different Types and Levels of Abstraction”. *Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV)*. 2023. **Oral presentation (top 1.68%)**.
- [12] Hila Chefer, Yuval Alaluf, **Yael Vinker**, Lior Wolf, and Daniel Cohen-Or. “Attend-and-Excite: Attention-Based Semantic Guidance for Text-to-Image Diffusion Models”. *ACM Transactions on Graphics (TOG)*. 2023. *Denotes equal contribution.
- [13] **Yael Vinker**, Ehsan Pajouheshgar, Jessica Y. Bo, Roman Christian Bachmann, Amit Haim Bermano, Daniel Cohen-Or, Amir Zamir, and Ariel Shamir. “CLIPasso: semantically-aware object sketching”. *ACM Transactions on Graphics (TOG)* (2022). **Best Paper Award**.
- [14] **Yael Vinker***, Eliahu Horwitz*, Nir Zabari, and Yedid Hoshen. “Image Shape Manipulation From a Single Augmented Training Sample”. *Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV)*. 2021. *Denotes equal contribution. **Oral Presentation (top 3%)**.
- [15] **Yael Vinker***, Huberman-Spiegelglas Inbar, and Fattal Raanan. “Unpaired Learning for High Dynamic Range Image Tone Mapping”. *Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV)*. 2021.