

Academic Appointments

Columbia University Department of Computer Science <i>Assistant Professor</i>	2025 - Present
Massachusetts Institute of Technology Department of Electrical Engineering and Computer Science <i>Postdoctoral Associate</i>	2024 - 2025

Education

University of Toronto PhD in Computer Science <i>Supervised by Prof. Alec Jacobson</i>	2019 - 2024
University of Oviedo BSc in Mathematics and BSc in Physics	2014 - 2019

Awards

Dimitris N. Chorafas Prize Dimitris N. Chorafas Foundation 10,000 USD	2025
SGP Software Award: Gpytoolbox Eurographics Symposium on Geometry Processing (with: Prof. Oded Stein) 1,000 EUR	2025
Alain Fournier Outstanding Doctoral Dissertation Award Canadian Human-Computer Communications Society 3,000 CAD	2025
Eurographics PhD Thesis Award Eurographics London, United Kingdom	2025
MIT Postdoctoral Fellowship for Engineering Excellence MIT School of Engineering 75,000 USD	2024-2025
DiDi Graduate Student Award in Computer Science University of Toronto Department of Computer Science 10,000 CAD	2024
Vanier Canada Doctoral Scholarship Natural Sciences and Engineering Research Council of Canada (NSERC) 150,000 CAD <i>Awarded to 166 graduate students across all of Canada and all academic disciplines.</i>	2021-2024
Connaught International Scholarship for Doctoral Students University of Toronto School of Graduate Studies 50,000 CAD	2019 - 2024
EECS Rising Stars Academic Career Workshop in EECS Travel Funding	2023
HLF Ernst Abbe Grant Heidelberg Laureate Forum Travel Funding	2023
Beatrice “Trixie” Worsley Graduate Scholarship in Computer Science University of Toronto Department of Computer Science 8,000 CAD <i>Awarded to a student who has taken an active role in promoting women in Computer Science.</i>	2021, 2023
Adobe PhD Fellowship Adobe Inc. 10,000 USD	2022
Dean’s Doctoral Excellence Scholarship University of Toronto Faculty of Arts & Science 25,000 CAD <i>Awarded to a single doctoral student across all the University of Toronto Faculty of Arts & Science disciplines.</i>	2021
Adobe Research Fellowship Adobe Inc. Honorable mention	2020 - 2021

50th Anniversary Graduate Scholarship University of Toronto Department of Computer Science 2,000 CAD	2020
Graduate Program Award University of Toronto Department of Computer Science 10,000 CAD	2019 - 2020
Recognition of Excellence Award University of Toronto Department of Computer Science 10,000 CAD	2019 - 2020
Adobe Women in Technology Scholarship Adobe Inc. <i>Honorable Mention</i>	2019
SenseTime Fellowship MIT <i>Granted but declined</i>	2019
Scholarship for Academic Excellence María Cristina Masaveu Peterson Foundation 50,000 EUR	2014 - 2019

Research Funding

Supported Research Project Columbia-Dream Sports AI Innovation Center 99,471 USD <i>Co-PI: Prof. Steven Feiner</i>	2025-2026
Interdisciplinary Research Seed Funding (SIRS) Columbia Fu Foundation School of Engineering 85,000 USD <i>Co-PI: Prof. Hod Lipson</i>	2025-2026
Research Support nTop <i>Donation</i>	2024
Research Support Adobe <i>Donation</i>	2025

Students and Postdocs

Ningna Wang Postdoctoral Research Scientist at Columbia University	2025 - Present
Xiana Carrera Alonso PhD Student at Columbia University	2025 - Present
Hyunwoo (Brian) Kim PhD Student at Columbia University	2025 - Present
Daria Nogina PhD Student at Columbia University	2025 - Present

Publications

Stochastic Poisson Surface Reconstruction with One Solve using Geometric Gaussian Processes Sidhanth Holalkere, David Bindel, Silvia Sellán , Alexander Terenin <i>ICML 2025</i>
Variational Elastodynamic Simulation Leticia Mattos Da Silva, Silvia Sellán , Natalia Pacheco-Tallaj, Justin Solomon <i>SIGGRAPH 2025</i>
Mesh Simplification for Unfolding Manas Bhargava, Camille Schreck, Marco Freire, Pierre-Alexandre Hugron, Sylvain Lefebvre, Silvia Sellán* , Bernd Bickel* (*joint last authors) <i>Computer Graphics Forum (to be presented at Eurographics 2025)</i>
Mirror Bridges Between Probability Measures Leticia Mattos Da Silva, Silvia Sellán , Justin Solomon <i>Under Peer Review</i>
Surface-Filling Curve Flows via Implicit Medial Axes Yuta Noma, Silvia Sellán , Nicholas Sharp, Karan Singh, Alec Jacobson <i>SIGGRAPH 2024</i>

Reach for the Arcs: Reconstructing Surfaces from SDFs via Tangent Points

Silvia Sellán, Yingying Ren, Christopher Batty, Oded Stein

SIGGRAPH 2024

Bayes' Rays: Uncertainty Quantification for Neural Radiance Fields

Lily Goli, Cody Reading, Silvia Sellán, Alec Jacobson, Andrea Tagliasacchi

CVPR 2024 (Highlight)

Reach for the Spheres: Tangency-Aware Surface Reconstruction of SDFs

Silvia Sellán, Christopher Batty, Oded Stein

SIGGRAPH Asia 2023

Neural Stochastic Screened Poisson Reconstruction

Silvia Sellán, Alec Jacobson

SIGGRAPH Asia 2023

Constructive Solid Geometry on Neural Signed Distance Fields

Zoë Marschner, Silvia Sellán, Hsueh-Ti Derek Liu, Alec Jacobson

SIGGRAPH Asia 2023

Stochastic Poisson Surface Reconstruction

Silvia Sellán, Alec Jacobson

SIGGRAPH Asia 2022

Breaking Bad: A Dataset for Geometric Fracture and Reassembly

Silvia Sellán*, Yun-Chun Chen*, Ziyi Wu*, Animesh Garg, Alec Jacobson (*joint first authors)

NeurIPS 2022 (Spotlight)

Breaking Good: Fracture Modes for Realtime Destruction

Silvia Sellán, Jack Luong, Leticia Mattos Da Silva, Aravind Ramakrishnan, Yuchuan Yang, Alec Jacobson

SIGGRAPH Asia 2022

Sex and Gender in the Computer Graphics Research Literature

Ana Dodik*, Silvia Sellán*, Amanda Phillips, Theodore Kim

SIGGRAPH Talk 2022

Swept Volumes via Spacetime Numerical Continuation

Silvia Sellán, Noam Aigerman, Alec Jacobson

SIGGRAPH 2021

Opening and Closing Surfaces

Silvia Sellán, Jacob Kesten, Yan Sheng Ang, Alec Jacobson

SIGGRAPH Asia 2020

Developability of Heightfields via Rank Minimization

Silvia Sellán, Noam Aigerman, Alec Jacobson

SIGGRAPH 2020

Solid Geometry Processing on Deconstructed Domains

Silvia Sellán, Herng Yi Cheng, Yuming Ma, Mitchell Dembowski, Alec Jacobson

ACM / Eurographics Symposium on Geometry Processing 2019

Patents

Swept Volume Determination Techniques

Silvia Sellán, Noam Aigerman, Alec Jacobson

United States Patent No. 11810255, 2023

Generating Developable Depth Images Using Rank Minimization

Silvia Sellán, Noam Aigerman, Alec Jacobson

United States Patent No. 11080819, 2021

Software

Gpytoolbox: A Python geometry processing toolbox

Silvia Sellán, Oded Stein

A library of general geometry processing Python research utility functions, including basic procedural meshes, differential geometric operators, bounding volume hierarchies and surface reconstruction from point clouds and SDFs.

Other Publications

Task-Aware 3D Geometric Synthesis

Silvia Sellán

PhD Thesis supervised by Prof. Alec Jacobson

Geometry Synthesis for Critical Applications

Silvia Sellán

SIGGRAPH Asia Doctoral Consortium, 2023

Efficient and Robust Swept Volumes

Silvia Sellán, Noam Aigerman, Alec Jacobson

Vector Institute Research Symposium poster, 2021

Applications of Geometry Processing to Computer Graphics

Silvia Sellán

B.Sc. in Mathematics thesis co-supervised by Profs. Alec Jacobson and Carlos Fernández García

An Introduction to Primal Inflation

Silvia Sellán

BSc in Physics thesis supervised by Prof. Luigi Toffolatti

Solid Geometry Processing on Deconstructed Domains

Silvia Sellán, Herng Yi Cheng, Yuming Ma, Mitchell Dembowski, Alec Jacobson

ACM / Eurographics SGP Poster, 2018

Other Research Experience

Yale University

Research Consultant | *Supervised by Prof. Theodore Kim*

Winter 2022

Adobe Research

Research Intern | *Mentored by Dr. Noam Aigerman and Supervised by Dr. Jovan Popovic*

Summer 2020

Adobe Research

Research Intern | *Mentored by Dr. Noam Aigerman and Supervised by Dr. Jovan Popovic*

Summer 2019

Fields Institute for Research in the Mathematical Sciences

Undergraduate Research Intern | *Supervised by Prof. Alec Jacobson*

Summer 2018

Fields Institute for Research in the Mathematical Sciences

Undergraduate Research Intern | *Supervised by Prof. Alec Jacobson*

Summer 2017

ICMAT (Institute of Mathematical Sciences)

Grant Programme Severo Ochoa - Introduction to Research | *Supervised by Prof. Javier Parcet*

Summer 2017

Academic Service

Austrian Science Fund

External grant reviewer

2025

Women in Graphics Rising Stars Program

Selection Committee

2025

ACM SIGGRAPH

Technical Papers Committee Member

2025

International Conference on Geometric Modeling and Processing International Program Committee Member	2025, 2026
Graphics Replicability Stamp Initiative International Evaluation Committee Member	2024 - Present
ACM SIGGRAPH Nominations Committee Invited Member	2025
ACM / Eurographics Symposium on Geometry Processing (SGP) Technical Program Chair	2025
Eurographics International Program Committee Member	2025, 2026
ACM / Eurographics Symposium on Geometry Processing (SGP) International Program Committee Member	2024
Summer Geometry Initiative Steering Committee Member	2023 - Present
ACM / Eurographics Symposium on Geometry Processing (SGP) Graduate School Chair	2024
ACM SIGGRAPH Women in Graphics Research Community Group Executive Committee Member	2022 - 2023
SIGGRAPH Research Career Development Committee Committee Member (in Undergraduate Mentorship Subcommittee)	2021 - 2023
ACM / Eurographics Symposium on Geometry Processing (SGP) Session Chair: Representation and Learning	2023
ACM / Eurographics Symposium on Geometry Processing (SGP) International Program Committee Member	2023
CVPR Deep Learning for Geometric Computing Organizing Committee Member	2023
Women in Computer Graphics Research (WiGRAPH) Executive Committee Member	2020 - 2022
CVPR Deep Learning for Geometric Computing Organizing Committee Member	2022
ICCV Deep Learning for Geometric Computing Program Committee Member	2021
Referee Service	
NeurIPS	2025
Pacific Graphics	2024
IEEE Transactions on Image Processing	2024
Journal of Cultural Heritage	2024
ACM SIGGRAPH Asia Technical Papers	2023 - Present
ACM / Eurographics Symposium on Geometry Processing (SGP)	2023 - 2024
ACM SIGGRAPH Technical Papers	2022 - Present
Eurographics Technical Papers	2021 - 2024
ACM Transactions on Graphics (ToG)	2021 - Present
IEEE Transactions on Pattern Analysis and Machine Intelligence	2023
The Visual Computer (TVCJ)	2023
CVPR DLGC Technical Papers	2022-2024
International Symposium on Robotics Research	2022
Computer Aided Design Journal (CAD-J)	2022, 2024

ACM SIGGRAPH Posters	2021 - 2024
ICCV DLGC Technical Papers	2021
Journal of Computer Graphics Techniques (JCGT)	2021

Departmental Service

Faculty of Arts and Science Graduate Diversity Working Group	2022
Invited Member	
Dean's Advisory Search Committee - Department Chair, Computer Science	2021 - 2022
Invited Member	
DGP Working Group on Fostering a Safe and Inclusive Workplace	2021 - 2022
Member	
DCS Grad program talk for Ukranian undergraduate visiting students	2022
Panelist	
Graduate Applications Triager	2021
16 hours of paid work on processing graduate school applications	

Talks

Geometric Processing with Signed Distance Functions

nTop <i>Invited Talk</i>	New York City (United States) <i>October 2024</i>
SIGMA Workshop <i>Invited Talk</i>	CIRM Marseille (France) <i>October 2024</i>

Stochastic Computer Graphics

University of Waterloo Computer Science Seminar <i>hosted by Prof. Craig Kaplan</i>	Waterloo (Canada) <i>January 2024</i>
University of Victoria Computer Science Seminar <i>hosted by Prof. Teseo Schneider</i>	Victoria (Canada) <i>February 2024</i>
Max Planck Institute for Informatics Seminar <i>hosted by Prof. Christopher Theobalt</i>	Saarbrücken (Germany) <i>February 2024</i>
Johns Hopkins University Computer Science Seminar <i>hosted by Prof. Misha Kazhdan</i>	Baltimore (United States) <i>February 2024</i>
Institute of Science and Technology Austria <i>hosted by Prof. Chris Wojtan</i>	Vienna (Austria) <i>February 2024</i>
Caltech Computer Science Seminar <i>hosted by Prof. Aaron Ames</i>	Pasadena (United States) <i>March 2024</i>
Brown University Computer Science Seminar <i>hosted by Prof. Daniel Ritchie</i>	Providence (United States) <i>March 2024</i>
Columbia University Computer Science Seminar <i>hosted by Prof. Changxi Zheng</i>	New York City (United States) <i>March 2024</i>
MIT Computer Science Seminar <i>hosted by Prof. William Freeman</i>	Cambridge (United States) <i>March 2024</i>
Princeton University Computer Science Seminar <i>hosted by Prof. Adam Finkelstein</i>	Princeton (United States) <i>March 2024</i>
CMU Computer Science Seminar <i>hosted by Prof. Keenan Crane</i>	Pittsburgh (United States) <i>March 2024</i>
UMass Amherst Machine Learning and Friends Lunch <i>Invited Talk</i>	Virtual <i>October 2024</i>

Uncertainty Quantification in 3D Geometric Synthesis

University of Zaragoza Graphics and Imaging seminar <i>hosted by Prof. Ana Serrano</i>	Virtual <i>November 2023</i>
Brown University Graphics seminar <i>hosted by Prof. Daniel Ritchie</i>	Virtual <i>October 2023</i>
Banff International Research Station 3D Generative Modeling Workshop <i>Invited talk</i>	Banff (Canada) <i>July 2023</i>

Geometry +: Uncertain Surface Reconstruction

École polytechnique Graphics seminar <i>hosted by Prof. Maks Ovsjanikov</i>	Paris (France) <i>July 2023</i>
INRIA seminar <i>hosted by Profs. Bruno Lévy and Sylvain Lefebvre</i>	Nancy (France) <i>June 2023</i>
CNRS seminar <i>hosted by Dr. Julie Digne</i>	Lyon (France) <i>June 2023</i>
University of Navarra Graphics and Vision seminar <i>hosted by Prof. Asier Marzo</i>	Pamplona (Navarra) <i>June 2023</i>
University of Edinburgh Geometry seminar <i>hosted by Prof. Amir Vaxman</i>	Edinburgh (Scotland) <i>June 2023</i>
Adobe Research seminar <i>hosted by Dr. Valentin Deschaintre</i>	London (England) <i>June 2023</i>
University College London Vision seminar <i>hosted by Prof. Kaan Akşit</i>	London (England) <i>June 2023</i>
University of British Columbia Graphics seminar <i>hosted by Prof. Alla Sheffer</i>	Vancouver (Canada) <i>June 2023</i>
Simon Fraser University Vision seminar <i>hosted by Prof. Andrea Tagliasacchi</i>	Vancouver (Canada) <i>June 2023</i>
EPFL Graphics seminar <i>hosted by Prof. Mark Pauly</i>	Lausanne (Switzerland) <i>May 2023</i>
ETH Graphics seminar <i>hosted by Prof. Olga Sorkine-Hornung</i>	Zürich (Switzerland) <i>May 2023</i>
University of Waterloo Graphics seminar <i>hosted by Prof. Craig Kaplan</i>	Waterloo (Canada) <i>April 2023</i>
University of Montreal Graphics seminar <i>hosted by Prof. Mikhail Bessmeltsev</i>	Montréal (Québec) <i>November 2022</i>
Johns Hopkins Graphics seminar <i>hosted by Prof. Misha Kazhdan</i>	Baltimore (United States) <i>November 2022</i>
Columbia University Graphics seminar <i>hosted by Prof. Changxi Zheng</i>	New York City (United States) <i>November 2022</i>

New York University Graphics seminar <i>hosted by Prof. Daniele Panozzo</i>	New York City (United States) <i>November 2022</i>
MIT Graphics seminar <i>hosted by Prof. Justin Solomon</i>	Cambridge (United States) <i>November 2022</i>
Dartmouth Graphics and Rendering seminar <i>hosted by Prof. Wojciech Jarosz</i>	Hanover (United States) <i>November 2022</i>
TomatoGRAPH <i>Technical Talk</i>	Toronto (Canada) <i>December 2021</i>
Mesh Math and Beyond: An introduction to shape representations	
Summer Geometry Initiative <i>Full-day tutorial</i>	Virtual <i>July 2023</i>
Summer Geometry Initiative <i>Full-day tutorial</i>	Virtual <i>July 2022</i>
Summer Geometry Initiative <i>Full-day tutorial</i>	Virtual <i>July 2021</i>
Blender for Academic Papers	
Graphics Interface <i>Invited Course</i>	Victoria (Canada) <i>June 2023</i>
Geometry and Architecture Summit <i>Invited Talk</i>	Toronto (Canada) <i>October 2022</i>
ACM / Eurographics SGP <i>Invited Course</i>	Virtual <i>June 2022</i>
Geometry +: Moving Fast, Breaking Things and Putting Them Back Together	
University of Southern California Graphics seminar <i>hosted by Prof. Oded Stein</i>	Los Angeles (United States) <i>April 2023</i>
McGill University Graphics seminar <i>hosted by Prof. Oded Stein</i>	Montréal (Québec) <i>November 2022</i>
Ubisoft research seminar <i>hosted by the LaForge team</i>	Montréal (Québec) <i>November 2022</i>
Yale University Rising Stars seminar <i>hosted by Prof. Theodore Kim</i>	New Haven (United States) <i>November 2022</i>
Engineering and Applied Science Forum <i>hosted by the EASF team</i>	Virtual <i>November 2022</i>
Uncertain Surface Reconstruction	
UCLA and CalTech's Grundfest Memorial Lecture <i>hosted by Profs. Achuta Kadambi and Katie Bouman</i>	Virtual <i>March 2023</i>
Research in Geometry Processing	
University of Toronto Undergraduate Graphics Club <i>Invited Talk</i>	Toronto (Canada) <i>February 2023</i>
Stochastic Poisson Surface Reconstruction	
ACM SIGGRAPH Asia <i>Technical Paper presentation</i>	Daegu (South Korea) <i>December 2022</i>
Breaking Good: Fracture Modes for Realtime Destruction	
ACM SIGGRAPH Asia <i>Technical Paper presentation</i>	Daegu (South Korea) <i>December 2022</i>
Breaking Bad: A Dataset for Geometric Fracture Reassembly	
NeurIPS <i>Featured (oral) paper presentation</i>	New Orleans (United States) <i>November 2022</i>
Virtual Bodies that Matter: A Trans Researcher's Career in Computer Graphics	
Georgetown's Gender and Media Seminar <i>hosted by Prof. Amanda Phillips</i>	Washington, D.C. (United States) <i>November 2022</i>
Sex and Gender in the Computer Graphics Literature	
Queer in AI @ NeurIPS workshop <i>Invited Talk</i>	New Orleans (United States) <i>November 2022</i>
UNC Chapel Hill <i>hosted by Prof. Roni Sengupta</i>	New Orleans (United States) <i>November 2022</i>
ACM SIGGRAPH <i>Talk presentation</i>	Vancouver (Canada) <i>August 2022</i>
A Deep Dive into Implicit Swept Volumes	
University of Toronto Undergraduate Graphics Club <i>Invited Talk</i>	Toronto (Canada) <i>March 2022</i>
INRIA MFX research seminar <i>hosted by Prof. Sylvain Lefebvre</i>	Virtual <i>June 2021</i>
MIT Graphics research seminar <i>hosted by Prof. Justin Solomon</i>	Virtual <i>June 2021</i>
GraphQUON <i>Technical presentation</i>	Virtual <i>December 2020</i>
Swept Volumes via Spacetime Numerical Continuation	
ACM SIGGRAPH <i>Technical Paper presentation</i>	Virtual (originally Los Angeles) <i>August 2021</i>
An Introduction to GP Programming in MATLAB with Gptoolbox	
ACM / Eurographics SGP <i>Invited Course</i>	Virtual <i>July 2021</i>
Developable Surfaces: A Case Study in Discrete Differential Geometry	
Lancaster University Pure Mathematics Postgraduate Forum <i>Invited Talk</i>	Virtual <i>March 2021</i>
Technion research seminar <i>hosted by Prof. Mirela Ben-Chen</i>	Virtual <i>December 2020</i>
Carnegie Mellon University Geometry seminar <i>hosted by Prof. Keenan Crane</i>	Virtual <i>November 2020</i>
Seamless Integration of Virtual and Real World	
Eurographics 2021 <i>Doctoral Consortium talk</i>	Virtual (originally Vienna) <i>May 2021</i>

University of Toronto | *PhD Qualifying Exam* Toronto (Canada) | *September 2020*

Opening and Closing Surfaces

ACM SIGGRAPH Asia | *Technical Paper presentation* Virtual (originally Daegu) | *December 2020*

Epic Games | *hosted by Dr. Ryan Schmidt* Virtual | *November 2020*

Fields Institute Undergraduate Summer Research Program | *End-of-summer research talk* Toronto (Canada) | *August 2017*

University of Toronto DCS Summer Research Program | *Mid-summer research talk* Toronto (Canada) | *July 2017*

Developability of Heightfields via Rank Minimization

Toronto Geometry Colloquium | *Opener talk for Prof. Olga Sorkine-Hornung* Virtual | *October 2020*

SIGGRAPH 2020 | *Technical Paper presentation* Virtual (originally Washington, D.C.) | *August 2020*

Solid Geometry Processing on Deconstructed Domains

Stanford University Graphics seminar | *hosted by Prof. Doug James* Stanford (United States) | *October 2019*

ACM / Eurographics SGP | *Technical Paper presentation* Milan (Italy) | *July 2019*

Toronto-Montreal Area Graphics workshop | *Technical talk* Toronto (Canada) | *December 2017*

Fields Institute Undergraduate Summer Research Program | *End-of-summer research talk* Toronto (Canada) | *August 2017*

University of Toronto DCS Summer Research Program | *Mid-summer research talk* Toronto (Canada) | *July 2017*

Applications of Geometry Processing to Computer Graphics

University of Oviedo | *B.Sc. in Mathematics Thesis Defense* Oviedo (Spain) | *June 2019*

An Introduction to Primal Inflation

University of Oviedo | *B.Sc. in Physics Thesis Defense* Oviedo (Spain) | *June 2019*

News

Animation technique simulates the motion of squishy objects

MIT News, written by Adam Zewe *June 2025*

What Do Food and Research Have in Common? More Than You Might Think

Spektrum.de, written by Nina Beier *January 2024*

Computer graphics researcher Silvia Sellán is awarded two prestigious scholarships

A&S News, written by Chris Sasaki *July 2021*

Silvia Sellán on Virtual Colloquium Planning

Q&A with WiGRAPH, written by Kate Salesin *June 2021*

Organizing

ACM SIGGRAPH Women in Graphics Research Community group

Undergraduate Outreach Coordinator *2023*

CVPR Deep Learning for Geometric Computing Workshop

Organizing Committee Member *2023*

ACM SIGGRAPH Women in Graphics Research Community group

Event Coordinator: Symposium on Geometry Processing *2022*

Toronto Geometry Colloquium

Founder, organizer and art director *2020 - 2023*

SIGGRAPH Graduate Applications Mentorship Program

Founder and organizer *2022*

Summer Geometry Institute

Admissions committee member and session planner *2022*

CVPR Deep Learning for Geometric Computing Workshop

Organizing Committee Member *2022*

Women in Graphics Research

Event Coordinator: Symposium on Geometry Processing *2020 - 2021*

SIGGRAPH Graduate Applications Mentorship Program	2021
Founder and organizer	
Summer Geometry Institute	2021
Admissions committee member and session planner	
Symposium on Geometry Processing (SGP)	2021
Student volunteer working on tech support full time during the conference and in Spanish-language outreach	
Toronto-Montreal-Waterloo Graphics Workshop (TomatoGRAPH)	2021
Student volunteer	

Teaching

Summer Geometry Initiative	Summer 2021, 2022, 2023, 2024
Instructor of a full-day tutorial including lectures, coding demos and exercises	
Graphics Interface	Summer 2023
Lecturer of the course Blender for Academic Papers	
Symposium on Geometry Processing (SGP)	Summer 2022
Lecturer of the SGP course Blender for Academic Papers	
Symposium on Geometry Processing (SGP)	Summer 2021
Co-lecturer of the SGP course An introduction to geometry processing programming in MATLAB with gptoolbox	
CSC165: Mathematical Expression and Reasoning for Computer Science	Winter 2020
Teaching Assistant (120 hours) for Prof. David Liu	
Individual High School Tutoring	2015-2018
Weekly paid mathematics and physics tutoring	

Teaching Feedback

Summer Geometry Institute	2021
During the summer of 2021, I planned, prepared and conducted a 6-hour long tutorial session on the topic of shape representations for undergraduate students of underrepresented communities, as part of MIT's Summer Geometry Institute (SGI). A representative sample of the anonymous feedback collected by professor Justin Solomon about my teaching is reproduced below, each quotation corresponding to different student.	

Silvia Sellán's presentation was idyllic, it gave the feeling of being a duck in a pond being fed delicious crumbs of bread, the students being the duck and Silvia the feeder throwing in one after another the information that we like the ducks devoured. The presentation itself was amazing to go beyond analogy it was clear and concise towards learning the topic, the information did not feel too overwhelming, nor too brief. The exercises as well as giving focus upon them and breaking them apart into which to do at what times, they felt like the perfect amount of material in order to have us learn and test our knowledge of the topics.

I just wanted to say that I really enjoyed Silvia's programme. Cutting out all the formulas definitely made her material really accessible and easy to follow without worrying about the precise details of what is going on. I think leaving these details for us to figure out by doing the exercises is really good for developing understanding, rather than having a perhaps more technical talk which is harder to follow and then not quite knowing how to approach the exercises.

Silvia's lecture was the easiest to follow and the most approachable.

Silvia's tutorial: Lively and engaging, I liked how a narrative that tied in everything together neatly was presented.

I really liked Silvia Sellán's tutorial day because for the presentations she gave us a story illustrating the motivation behind the concepts and theory and the actual coding assignments were very accessible and did not require a lot of background material.

I think a very good example of this was Silvia Sellán's tutorial day. She approached the advanced topics from a big picture perspective and all of the coding exercises needed "basic" MATLAB and knowledge of calculus and a small amount of linear algebra.

I thoroughly enjoyed Silvia's talk and the associated exercises.

I also found Silvia's talk very valuable, not only for the geometry processing material offered (which was undoubtedly great, well-structured and very accessible), but also for increasing our awareness about potential nefarious uses of geometry processing. Also the brief digressions on true diversity when talking about fonts/letters were in my opinion very welcome – I (unfortunately) tend to think in a very "westernized" way, and it's always good to bring awareness to things outside of our intellectual comfort zone.

I really liked Silvia Sellán's day of the tutorial week. I think she did a really good job of creating presentations and exercises that met me where I am as a student without a formal experience in geometry processing. The mathematics and computer science that she talked as well as exercises she designed were accessible to me as someone who has undergraduate majors in mathematics and computer

science as well as had participated in larger projects with programming computer graphics components. I also think she did a really good job of telling and motivating a story, which was really important to staying engaged throughout the day. I also really appreciate that she spoke about ethics in computing and the need to think critically about academic work. It's definitely something that is not spoken enough about and that needs to be spoken about more.

YOU GUYS ARE WONDERFUL! Not gonna lie, I started looking at PhD opportunities to pursue this field after attending this program.

Volunteering

General election worker

Day-long volunteer helping citizens vote on the day of the Spanish General Elections.

July 2023

Reading Partners

Translation of documents into Spanish for literacy non-profit

August 2020

General election worker

Day-long volunteer helping citizens vote on the day of the Spanish General Elections.

April 2019

General election worker

Day-long volunteer helping citizens vote on the day of the Spanish General Elections.

June 2016