Zhen(Colin) Li

Computer Vision & Graphics

Simon Fraser University, Burnaby, BC, Canada

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Education

Simon Fraser University (SFU) — *Burnaby, BC, Canada*

M.Sc. in Computer Science — *Sep 2024 – Present*

- Advisor: **Dr. Andrea Tagliasacchi**
- Research topics: 3D reconstruction, Inverse rendering, Neural BRDF models

Simon Fraser University (SFU) — *Burnaby, BC, Canada*

B.Sc. in Computer Science — *Sep 2021 – Jun 2024*

Zhejiang University (ZJU) — *Hangzhou, China*

B.Sc. in Computer Science — *Sep 2018 – Jul 2021*

Publications

NoKSR: Kernel-Free Neural Surface Reconstruction via Point Cloud Serialization — 3DV, 2025

Zhen(Colin) Li, Weiwei Sun, Shrisudhan Govindarajan, Shaobo Xia, Daniel Rebain, Kwang Moo Yi, Andrea Tagliasacchi — Project page

3D Gaussian Flats: Hybrid 2D/3D Photometric Scene Reconstruction — NeurIPS, 2025

Maria Taktasheva1, Lily Goli, Alessandro Fiorini3, **Zhen (Colin) Li**, Daniel Rebain, Andrea Tagliasacchi — Project page

Research Experience

Feed-Forward Training of 3D Gaussian Flats — *SFU*

Gruvi Lab (Advisor: Prof. Andrea Tagliasacchi) — *Sep 2025 – Present*

- Working on a feed-forward model for hybrid 2D/3D scene representations.
- Extended VGGT by adding a plane prediction head that outputs per-pixel plane parameters and confidence scores.
- Training on ScanNet++ dataset with plane supervision to enable planar Gaussian splatting applications.

Real Capture Pipeline for Neural Cloth Modeling and Generation — *SFU*

Gruvi Lab (Advisor: Prof. Andrea Tagliasacchi) — *Dec 2024 – Present*

- Built a cloth material capture pipeline with robot-controlled camera and lighting systems.
- Developed a neural SVBRDF representation achieving over 37 PSNR reconstruction quality on captured data.
- Working on capturing thousands of samples to build a diffusion-based generative model on the dataset.
- This work is planned for submission to SIGGRAPH 2026.

NoKSR: Kernel-Free Neural Surface Reconstruction via Point Cloud Serialization — *SFU*

Gruvi Lab (Advisor: Prof Andrea Tagliasacchi Mentor: Weiwei Sun) — *Feb 2024 – Feb 2025*

- Presented a novel approach to large-scale point cloud surface reconstruction.
- Proposed point cloud serialization for neighbor queries to replace KNN.
- This work was published at 3DV 2025

Leveraging Neural Fields for 3D Point Cloud Understanding — *SFU*

Undergraduate Researcher, Gruvi Lab (Advisors: Prof Andrea Tagliasacchi, Prof Kwang Moo Yi) — *Feb 2023 – Dec 2023*

- Designed a two-stage framework: learn voxel-level latents via UDF-based surface reconstruction, then reuse latents for downstream tasks.
- Semantic segmentation mIoU improved by **+11.2%** vs. MinkowskiNet with large voxels and **+6%** with small voxels.
- Improved memory efficiency of Fast Point Transformer.

Achievements

2024	**Huawei EOW Research Funding**, Wrote proposal draft to help to apply for funding of CAD $10,000 for two years	*SFU / Huawei*
2023	**Undergraduate Student Research Awards (USRA)**, Total award amount: CAD $9,000	*SFU*
2020	**First Prize**, Zhejiang Higher Mathematics Competition	*Zhejiang University*
2020	**Third Prize Scholarship**, Merit-based scholarship (3,000 RMB)	*Zhejiang University*

Extracurricular Activity

Department Badminton Team, Zhejiang University *Hangzhou, China*

Member *Dec 2018 – Dec 2019*

References

Dr. Andrea Tagliasacchi

Associate Professor, School of Computing Science, Simon Fraser University; Part-Time Staff Research Scientist at Google DeepMind

- Email: taiya@theialab.ca

Dr. Weiwei Sun

Scientist at Amazon (Vancouver); Ph.D. in Computer Science, University of British Columbia

- Email: weiwei.sun3@gmail.com