

Research Interests

My Ph.D. research consists of attempts to bridge rough freehand line drawings with precise digital representations and also to robustly generate line drawings based on 3D models. For the future, my goal is to better understand as well as assist sketching and drawing in general.

Education

Sep 2016 – present	University of British Columbia Ph.D. in Computer Graphics. Advised by Prof. Alla Sheffer.
Aug 2013 – Dec 2014	Carnegie Mellon University M.S. in Computer Science.
Sep 2009 – Jun 2013	Beihang University B.Eng. in Computer Science and Technology. Ranking: 2/188.

Publications

Chenxi Liu, Pierre B enard, Aaron Hertzmann, and Shayan Hoshiyari. Contesse: Accurate occluding contours for subdivision surfaces. *ACM Transactions on Graphics*, Jun 2022. Just Accepted

Jerry Yin*, **Chenxi Liu***, Rebecca Lin, Nicholas Vining, Helge Rhodin, and Alla Sheffer. Detecting viewer-perceived intended vector sketch connectivity. *ACM Transactions on Graphics*, 41, 2022. *Joint first authors

Dave Pagurek van Mossel, **Chenxi Liu**, Nicholas Vining, Mikhail Bessmeltsev, and Alla Sheffer. Strokestrip: Joint parameterization and fitting of stroke clusters. *ACM Transactions on Graphics*, 40(4), 2021

Yulia Gryaditskaya, Felix H ahnlein, **Chenxi Liu**, Alla Sheffer, and Adrien Bousseau. Lifting freehand concept sketches into 3d. *ACM Transactions on Graphics*, 39(6):1–16, 2020

Chenxi Liu, Enrique Rosales, and Alla Sheffer. Strokeaggregator: Consolidating raw sketches into artist-intended curve drawings. *ACM Transaction on Graphics*, 37(4), 2018

Chenxi Liu, Jessica Hodgins, and James McCann. Whole-cloth quilting patterns from photographs. In *Proceedings of the Symposium on Non-Photorealistic Animation and Rendering*, NPAR'17, July 2017

Lea Albaugh, April Grow, **Chenxi Liu**, James McCann, Gillian Smith, and Jennifer Mankoff. Threadsteading: Playful interaction for textile fabrication devices. In *Proceedings of the 2016*

Research & Professional Experience

Sep 2016 – Present	Digital Geometry Processing Group, Imager Lab, UBC Research Assistant. Advised by Prof. Alla Sheffer. Conducting research on the artistic creation tools.
May 2020 – Nov 2020	Adobe Research Research Intern. Supervised by Aaron Hertzmann. Conducted research on non-photorealistic line drawing generation.
Mar 2015 – Jul 2016	Textile Lab, Disney Research Pittsburgh Research Associate. Supervised by Dr. James McCann & Prof. Jessica Hodgins. Conducted research on automatic quilting pattern generation using CNC quilting machine and graph theory.
Jul 2014 – Aug 2014	CMU Graphics Lab Research Assistant. Advised by Prof. Kayvon Fatahalian. Built a visualization module for a lighting control framework using Arnold.
Jul 2012 – Sep 2012	Microsoft Search Technology Center Asia Intern, Software Development Engineer in Test. Wrote scripts to gather statistical data and create analyses from search engine logs.
Aug 2011 – Dec 2011	Laboratory for Information Security and Intelligent Information Processing, Beihang University Research Assistant. Advised by Prof. Zhoujun Li. Built a tool to capture exception messages for further analyses. Manually analyzed software flaws for exploitations.

Honors

May 2022	WiGRAPH Rising Stars Women in Graphics Research Outreach.
Oct 2016	Technology Award Winner: Threadstading IndieCade'16.
Nov 2011	National Scholarship (Top 1% in Academic Performance) Ministry of Education of the People's Republic of China.
Dec 2012, 2011, 2010	The First Prize Scholarship of Academic Performance Beihang University.

Talks & Exhibition

Aug 2018	SIGGRAPH'18 Conference Presenter: Strokeagggregator: Consolidating raw sketches into artist-intended curve drawings.
Jul 2017	NPAR'17 Conference Presenter: Whole-cloth quilting patterns from photographs.
Mar 2016	Alt.Ctrl.GDC, Game Developers Conference Exhibitor: Threadstading. (Game also attended CHI Interactivity, 2016. IndieCade, 2016)

Teaching Experience

Winter 2, 2018	CPSC436D@UBC: Video Game Programming Graduate Teaching Assistant, Instructor: Prof. Alla Sheffer.
Winter 2, 2016	CPSC418@UBC: Parallel Computation Graduate Teaching Assistant, Instructor: Prof. Mark Greenstreet.

Services

2019 – Present	Conference and Journal Paper Review TPAMI'19. SCF'19. Eurographics'20. Pacific Graphics'20. IEEE CG&A'20. Eurographics'22. SIGGRAPH'22. SIGGRAPH Asia'22.
2018	Graduate Student Recruiting Committee Student Representative of Computer Graphics.
2016 – 2017	AMORE Seminar Imager Lab seminar organizer.

Skills

Programming: C/C++, Python, MATLAB, Java, SQL.

Libraries and Tools: libigl, CGAL, scikit-learn, CUDA, OpenCL, OpenGL, CMake, Git.

Visual Editing: Illustrator, Photoshop, Premiere.

References

Alla Sheffer (current Ph.D. supervisor, sheffa@cs.ubc.ca), University of British Columbia.

Aaron Hertzmann (internship mentor, hertzman@dgp.toronto.edu), Adobe Research.