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Mengyi Shan

Education

University of Washington — Seattle, WA
Ph.D. in Computer Science — 2021 - 2027 *(expected)*
- Advisors: Steve Seitz, Brian Curless, Ira Kemelmacher-Shlizerman
- Affiliations: UW Graphics and Imaging Lab (GRAIL), UW Reality Lab
- Research: Computer vision and graphics, generative AI for content creation

Harvey Mudd College — Claremont, CA
B.S. Double Major in Computer Science and Mathematics — 2017 - 2021
- GPA: 3.95/4.00
- Graduated with Department Honor
- Thesis: Geometric Unified Method in 3D Object Classification

Conference Publications

1. **Mengyi Shan**, Lu Dong, Yutao Han, Yuan Yao, Tao Liu, Ifeoma Nwogu, Guo-Jun Qi, Mitch Hill. Towards Open Domain Text-Driven Synthesis of Multi-Person Motions. *ECCV*, 2024.
2. Zhangsihao Yang, Mingyuan Zhou, **Mengyi Shan**, Bingbing Wen, Ziwei Xuan, Mitch Hill, Junjie Bai, Guo-Jun Qi, Yalin Wang. OmniMotionGPT: Animal Motion Generation with Limited Data. *CVPR*, 2024.
3. **Mengyi Shan**, Brian Curless, Ira Kemelmacher-Shlizerman, Steve Seitz. Animating Street View. *ACM SIGGRAPH Asia*, 2023.
4. Roy Or-El, Xuan Luo, **Mengyi Shan**, Eli Shechtman, Jeong Joon Park, Ira Kemelmacher-Shlizerman. StyleSDF: High-Resolution 3D-Consistent Image and Geometry Generation. *CVPR*, 2022.
5. **Mengyi Shan**, TJ Tsai. Improved Handling of Repeats and Jumps in Audio-Sheet Image Synchronization. *ISMIR*, 2020.
6. Daniel Yang*, Thitaree Tanprasert*, Teerapat Jenrungrot, **Mengyi Shan**, TJ Tsai. MIDI Passage Retrieval Using Cell Phone Pictures of Sheet Music. *ISMIR*, 2019.

Journal Articles

1. Claire Chang, Thaxter Shaw, Arya Goutam, Christina Lau, **Mengyi Shan**, TJ Tsai. Partial Match Alignment with Hidden State Time Warping. *Applied Science*, 2022.
2. **Mengyi Shan**, TJ Tsai. Automatic Generation of Piano Score Following Videos. *Transactions of the International Society for Music Information Retrieval*, 2021.
3. TJ Tsai, Daniel Yang, **Mengyi Shan**, Thitaree Tanprasert, Teerapat Jenrungrot. Camera-Based Sheet-MIDI Passage Retrieval Using Bootleg Score Features. *IEEE Transactions on Multimedia*, 2020.

Preprints

1. Zhangsihao Yang, **Mengyi Shan**, Mohammad Farazi, Wenhui Zhu, Yanxi Chen, Xuanzhao Dong, Yalin Wang. AMG: Avatar Motion Guided Video Generation. *arXiv*, 2024.

Research Experiences

Research Assistant, University of Washington | Seattle, WA 2021.09 - Now
- Video chat relighting with a desktop monitor.
- Populate and animate street view imagery.
- Generate scene-based human interactive video.

Research Assistant, Harvey Mudd College | Claremont, CA 2019.01 - 2021.05
- Automatically generate piano score following video.
- Cross-verify audio for Deepfake detection.

Work Experiences

Research Intern, Meta GenAI | Menlo Park, CA 2024.05 - 2024.12
- Generate video with human-scene interaction.
- Participate in development of the internal text-to-video model.

Research Intern, OPPO US Research Center | Seattle, WA 2023.06 - 2024.03
- Generate multi-person motion with diffusion model.
- Collect human pose and motion data from in-the-wild media contents.

Research Consultant, Vobile Group | Remote 2020.08 - 2021.05
- Recognize cover song by retrieving from a database.
- Extend Mediawise fingerprint to multimedia domains including raw video.

Engineering Practicum Intern, Google Inc. | Los Angeles, CA 2019.05 - 2019.08
- Create automatic workflow to integrate test log data from a database to an interactive dashboard.
- Track manual testing progress and ingest the scenario/feature coverage solution.

Student Researcher, Wolfram Research Inc. | Boston, MA 2018.06 - 2018.07
- Design LSTM models to restore English text punctuations from plain text.

Teaching

Seminar Organizer | University of Washington Autumn 2022
- CSE 590-V, Computer Vision Seminar

Teaching Assistant | University of Washington Autumn 2023
- CSE 457, Computer Graphics

Teaching Assistant | Harvey Mudd College 2018-2021
- MATH055 HM, Discrete Mathematics
- MATH131 SC, Mathematical Analysis 1
- CS081 HM, Computability and Logic
- MATH 171 HM, Abstract Algebra
- CS070 HM, Data Structure and Programming Development
- MATH189R HM, Mathematics and Big Data
- MATH 171 HM, Abstract Algebra
- CS151 HM, Artificial Intelligence
- CS158 HM, Special Topics in Machine Learning

Academic Excellence Tutoring | Harvey Mudd College 2019-2021
- MATH019 HM, Single and Multivariable Calculus
- MATH073 HM, Linear Algebra
- MATH055 HM, Discrete Mathematics
- MATH045 HM, Ordinary Differential Equation 1
- MATH065 HM, Linear Algebra and Ordinary Differential Equation 2

Awards and Honors

- **OPPO Fellowship**, University of Washington, Reality Lab 2022.04
- **Chavin Best Thesis Prize**, Harvey Mudd College 2020.09
- **Meritorious Award**, The Mathematical Contest in Modeling (MCM), 2019.04
- **Robert James Prize for Outstanding First Year**, Harvey Mudd College 2018.09
- **R.I.F. Scholarship for Math Competition**, Harvey Mudd College 2018.09
- **Honorable Mention (93rd)**, Putnam Math Competition 2018.02
- **Second Prize Team Round**, Harvard-MIT Mathematics Tournament (HMMT) 2016.02
- **First Prize (Province Level)**, Chinese National Mathematics Olympiad 2015.10

Skills

Languages: Mandarin Chinese, English, Japanese (JLPT N1).
Programming Languages: `Python`, `C++`, `Java`, `MATLAB`.
Tools: Pytorch, CUDA, Unity, Blender

Academic Services

Reviewers for: CVPR, NeurIPS