

Lele Chen

<https://www.cs.rochester.edu/u/lchen63>

Email : lchen63@ur.rochester.edu

Mobile : +1-608-440-5210

EDUCATION

- **University of Rochester** Rochester, NY
Ph.D. student in Computer Science Sep. 2016 – present
- **Reutlingen University** Reutlingen, Germany
Visiting Student in Informatics Mar. 2015 – Oct. 2015
- **Donghua University** Shanghai, China
B.S. in Computer Science Aug. 2012 – May. 2016

RESEARCH INTERESTS

Audio-Visual Understanding, and Multi-Modal Vision-and-X Modeling.

RESEARCH EXPERIENCE

- **URCS** Rochester, NY
Research Assistant Jan. 2017 - present
 - **Audio-Visual Understanding**
Advisor: Prof. Chenliang Xu (UR-CS), Prof. Zhiyao Duan(UR-ECE), Prof. Ross Maddox (UR-BME)
We conduct systematic investigations to integrate two modalities (vision and audition) towards a more comprehensive audio-visual scene understanding. Designing algorithms that jointly model audio and visual modalities towards a complete audio-visual scene understanding can enable novel applications, including multimedia (video indexing and scene editing), and healthcare (assistive devices for visually and aurally impaired people).
 - **Medical MRI Image Understanding**
Advisor: Prof. Chenliang Xu (UR-CS), Prof. Axel W. E. Wismller (UR-BME)
Cooperating with UR Medical Center, we develop an efficient and accurate Glioma segmentation algorithm in MRI data to provide valuable assistance for treatment planning, and disease progression monitoring for oncological patients.
 - **Image Generation**
Advisor: Prof. Chenliang Xu (UR-CS), Prof. Jiebo Luo (UR-CS)
We propose a texture preserving image generation model to synthesize human body images based on sketch. In this project, we propose an unsupervised pose flow learning scheme that learns to transfer the appearance details from the source image.
- **Facebook Reality Labs** Pittsburgh, PA
Research Intern Jul. 2020 - Dec. 2020
 - **AR/VR Talking Avatar**
Advisor: Prof. Chenliang Xu (UR-CS), Dr. Chen Cao (Facebook), Prof. Fernando De la Torre (CMU)
Outside-in Codec Avatar. We aim at driving the codec avatar using the outside-in cameras, such as Facestar or iPhone, to achieve the light-stage playback animation quality.
- **OPPO US Research Center** Palo Alto, CA
Research Intern May 2019 - Aug. 2019
 - **3D Human Avatar Digitization**
Advisor: Prof. Chenliang Xu (UR-CS), Dr. Shuxue Quan (OPPO), Dr. Yi Xu (OPPO)
We develop an efficient algorithm to reconstruct 3D human shape avatar from a single RGB image with keeping the realistic texture. We develop a mobile application that demonstrates this capability in AR/VR settings.
- **JDX Silicon Valley Research Center** Sunnyvale, CA
Research Intern May 2018 - Aug. 2018
 - **Perception Module for Autonomous Delivery Robot**
Advisor: Prof. Chenliang Xu (UR-CS), Dr. Hongda Mao (JD.com), Dr. Victor Zhu (JD.com)
We develop a real-time algorithm to process image and Lidar data and output the vehicle/pedestrian/traffic-light detection results to the planning module.

• VisualDX

Research Intern

Rochester, NY

May 2017 - Sep. 2017

○ Medical Image Analysis

Advisor: Prof. Chenliang Xu (UR-CS), Prof. Jiebo Luo (UR-CS), Dr. Art Papier (VisualDX)

We build several deep neural networks to classify skin diseases, skin lesions, and their anatomical locations, which was been developed to an ios App.

PUBLICATIONS

Qualifiers added where known: Impact Factor (IF), h5-Index (h5) provided by Google Scholar metrics.

- **L. Chen**, C. Cao, F. De la Torre, C. Xu, J. Saragih, Y. Sheikh. *High-fidelity Face Tracking for AR/VR via Deep Lighting Adaptation.* h5: 240 (**CVPR 2021**)
- Z. Li, **L. Chen**, C. Liu, F. Zhang, Z. Li, Y. Gao, Y. Ha, C. Xu, S. Quan, Y. Xu. *Animated 3D human avatars from a single image with GAN-based texture inference.* IF: 1.35 (**Computers & Graphics 2021**)
- **L. Chen**, G. Cui, C. Liu, Z. Li, Z. Kou, Y. Xu, C. Xu. *Talking-head Generation with Rhythmic Head Motion.* h5: 137 (**ECCV 2020**)
- H. Zheng, H. Liao, **L. Chen**, W. Xiong, T. Chen, and J. Luo. *Example-Guided Scene Image Synthesis using Masked Spatial-Channel Attention and Patch-Based Self-Supervision.* h5: 137 (**ECCV 2020**)
- H. Zheng, **L. Chen**, C. Xu and J. Luo. *Texture Preserving Flow for Pose Guided Synthesis.* h5: 113 (**IEEE TIP 2020**)
- Y. Gan, Y. Qiu, **L. Chen**, J. Leng, Y. Zhu. *Low-Latency Proactive Continuous Vision.* **Best Paper Nominee** h5: 65 (**PACT 2020**)
- **L. Chen**, G. Cui, Z. Kou, H. Zheng, C. Xu. *What comprises a good talking-head video generation?.* h5: 47 (**CVPRW 2020**)
- Z. Li*, **L. Chen***, C. Liu, Y. Gao, Y. Ha, C. Xu, S. Quan, Y. Xu. *Human Shape Avatar Digitization at a Glance.* (*: equal contribution) **Best Paper Award** (**SIGGRAPH VRCAI 2019**)
- **L. Chen***, J. Tian *, G. Li, C. Wu, E. King , K. Chen , S. Hsieh , C. Xu. *TailorGAN: Making User-Defined Fashion Designs.* **Oral** h5: 46 (**WACV 2020**)
- **L. Chen**, H. Zheng, R.K. Maddox, Z. Duan, C. Xu. *Sound to Visual: Hierarchical Cross-Modal Talking Face Video Generation.* **Spotlight** h5: 47 (**CVPRW 2019**)
- **L. Chen**, R. Maddox, Z. Duan and C. Xu. *Hierarchical Cross-modal Talking Face Generation with Dynamic Pixel-wise Loss.* h5: 240 (**CVPR 2019**)
- **L. Chen***, Z. Li*, R.k. Maddox, Z. Duan and C. Xu. *Lip movements generation at a glance.* **Demo** h5: 137 (**ECCV 2018**)
- **L. Chen**, E. Eskimez, Z. Li, Z. Duan, C. Xu, R.K. Maddox. *Toward a visual assistive listening device: Real-time synthesis of a virtual talking face from acoustic speech using deep neural networks.* IF: 1.8 (**JASA 2018**)
- **L. Chen**, Y. Wu, A.M. DSouza, A.Z. Abidin, C. Xu and A. Wismller. *MRI Tumor Segmentation with Densely Connected 3D CNN.* **Oral** h5: 16 (**SPIE 2018**)
- **L. Chen***, S. Srivastava*, Z. Duan and C. Xu. *Deep Cross-Modal Audio-Visual Generation.* (**ACMMM 2017**)
- **L. Chen**, G. Cui, Z. Kou, H. Zheng, C. Xu. *What comprises a good talking-head video generation?: A Survey and Benchmark.* (In Submission)

HONORS & AWARDS

29th Int. Conference on Parallel Architectures and Compilation Techniques Best Paper Nominee	2020
Donald M. and Janet C. Barnard Fellowship	2020
17th ACM SIGGRAPH VRCAI Best Paper Award	2019
CIRC Poster Session Best Poster Award	2017
Scholarship by University of Rochester (30% of tuition)	2016
Bronze Medal of Mathematical Contest in Modeling of Shanghai	2014
Scholarship for Academic Excellence	2013
Jinbao Scholarship for Top 10 Students	2013
Bronze Medal of ACM Contest of Donghua University	2013

UNIVERSITY SERVICES

- **Teaching Assistant**

Spring 2020 CSC261/461: Intro. to Databases
Spring 2019 CIS418: Advanced Business Modeling & Analysis
Winter 2018 CSC261/461: Database Systems
Fall 2017 GBA464: Programming for Analytics

Fall 2019 CSC577: Advanced Topics in Computer Vision
Winter 2018 CIS442: Data Management for Analytics
Spring 2018 CIS442F: Big Data

- **PhD Admission Committee**

(CS, University of Rochester)

Feb. 2020

- **Student Advising**

- **MS Students** Purvanshi Mehta (UR-DS), Justin Tian (UR-CS), Ziyi Kou (UR-CS), Guofeng Cui (UR-CS), Guo Li (UR-CS)
- **Undergraduate Students** Canruo Zou (UR-CS)

PROFESSIONAL ACTIVITIES

- **Organizer:** Audio-Visual Scene Understanding Tutorial (**WACV 2021, CVPR 2021**)
- **Journal Reviewer:** IEEE Transactions on Image Processing, IEEE Transactions on Multimedia, Neurocomputing, IEEE Access
- **Conference Reviewer:** WACV 2020, AAAI 2020, CVPR 2021.
- **Membership:** IEEE Student Member, ACM Student Member

INVITED TALKS

- From Image Generation to Video Generation
- NSF NRT mini-conference, University of Rochester Sep. 2019
- Combination of Generative Adversarial Network and 3D Graphics Modeling
- JD AI Research Aug. 2019
- Sound to Visual: Hierarchical Cross-Modal Talking Face Generation
- Sight & Sound Workshop, CVPR 2019 Jun. 2019
- Cross-Modal Audio-Visual Generation
- VISTA Lab, University of Rochester Apr. 2017

LEADERSHIP

- Rochester Vision Group, Lab Manager Nov. 2017 - present
- Maintain the GPU Cloud Computing Server at the hardware-level and system-level. Suggest the new server purchase (up to \$50,000).
Manage the Cloud Computing Server accounts for new lab researchers and create new environments for their research.
- CSC261 Teaching Assistant Group, Leader Winter 2018, Spring 2020
- Create and design the course project for CSC261 (45% of the final grade). Demonstrate lecture tutorials and reviews. Create and manage department SQL Web Server to hold student's websites. Coordinate other TAs' TA hours, teaching sessions, etc.
- University Youth League, Vice President Jun. 2013 - Dec. 2015
- Coordinate company visits, schedule events. Oversee budgeting of other officers, orchestrate fundraising activities, purchase and select prizes and food for in-house events.

VOLUNTEER WORK

- Graduate Student Association (GSA) Department Representative 1 year (ongoing)
The GSA advocates on behalf of our students to the University's administration, connects students to each other and University resources, and organizes activities that promote personal, academic, and career success during graduate school.
- Volunteered Lecture 10 hours (ongoing)
Demonstrate several tutorial lectures per year(2018-2020) to different URCS courses on GPU cloud server usage, artificial intelligence research, website design and database design, etc.
- URCS Department Cleaning Committee 1 year (ongoing)
- Member of URCS cleaning committee (2019-2020). The core tasks are throwing out spoiled or unlabeled food in both the 3rd floor and grad lounge fridges and wiping them down, as well as cleaning the microwaves in those two spaces and cleaning the countertops in the kitchen.
- Public Speaking with Ignite 20 hours
- Gave several lectures per year(2013-2015) to local high school students on computer science research.