SHUHONG CHEN

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github: https://github.com/ShuhongChen
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EDUCATION

PhD in Computer Science
University of Maryland – College Park, MD
Class of 2024 (expected; entered 2019)
Advisor: Prof. Matthias Zwicker
Computer Vision/Graphics

BS in Computer Science and Mathematics
Rutgers University, New Brunswick, NJ
Class of 2019 (entered 2015)
Honors College, Summa cum laude
Minor in Economics

RESEARCH EXPERIENCE

Research Scientist Intern, Meta
Mentors: Amit Kumar, Xiaoyu Xiang, Sreyas Mohan, Rakesh Ranjan
2023 August – 2023 December
Working on diffusion models applied to non-photorealistic 3D modeling.

Research Collaborator, OLM Digital Inc.
Supervisors: Maejima Akinobu, Marc Salvati, Tatsuo Yotsukura
2023 July - 2023 July
Research & Development Division, worked on automatic cleanup of genga to douga. Collaborated in-person in Setagaya, Tokyo to learn more about the anime production process, and to train deep models on real production data.

Vision Research Intern, ByteDance/TikTok
Mentors: Yiheng Zhu, Heng Wang, Yichun Shi
2022 May – 2022 November
Intelligent Creation & Computer Vision - Generation Team, worked on generative modeling of 3D VR character assets; specifically, stylized single-view 3D reconstruction from illustrated character portraits.

Research Assistant, UMD Department of Computer Science
Advisor: Prof. Matthias Zwicker
2020 June – 2024 May (expected)
I am exploring novel ways of creating and manipulating illustrations and animations, by leveraging both modern data-driven computer vision techniques and the traditional 3D graphics pipeline. I am also exploring new methods for rendering using deep learning.

Vision/ML Research Intern, MIT Lincoln Laboratory
Advisor: Dr. Michael Chan
2018 June – 2018 August
I have applied deep state-of-the-art techniques to active problems in Computer Vision. Specifically, I have looked at automatically discovering recurrent neural network architectures for video action recognition. I was also a finalist at the lab's Intern Innovative Idea Challenge.

Research Assistant, Rutgers Dept. of Electrical & Computer Engineering
Advisor: Prof. Ivan Marsic
2015 October – 2019 May
I have done research in process mining, workflow analysis, data visualization, natural language processing, and computer vison for healthcare informatics, specifically trauma resuscitations. I have a first-authorship and around a dozen co-authorships through this lab.

SELECTED PUBLICATIONS

full list on google scholar: https://scholar.google.com/citations?hl=en&user=TcGJKGwAAAAJ

Chen Shuhong, Zhang Kevin, Shi Yichun, Wang Heng, Zhu Yiheng, Song Guoxian, An Sizhe, Kristjansson Janus, Yang Xiao, & Zwicker Matthias. (2023). Stylized Single-view 3D Reconstruction from Portraits of Anime Characters. (CVPR 2023)

Chen Shuhong, & Zwicker Matthias. (2022). Improving the Perceptual Quality of 2D Animation Interpolation. arXiv preprint arXiv:2111.12792. (accepted at ECCV 2022)

Chen Shuhong, & Zwicker Matthias. (2022). Transfer Learning for Pose Estimation of Illustrated Characters. arXiv preprint arXiv:2108.01819. (WACV 2022)

Hadadan Saeed, **Chen Shuhong**, & Zwicker Matthias. (2021). Neural Radiosity. arXiv preprint arXiv:2105.12319. (SIGGRAPH Asia 2022)

Chen Shuhong, Yang Sen, Zhou Moliang, Burd Randall S., Marsic Ivan. "Process-oriented Iterative Multiple Alignment for Medical Process Mining." (2017): ICDM Workshop on Data Mining in Biomedical Informatics and Healthcare (DMBIH), IEEE International Conference on Data Mining, 2017.

Li Xinyu, Zhang Yanyi, Li Mengzhu, **Chen Shuhong**, Farneth Richard, Marsic Ivan, Burd Randall S. "Online Process Phase Detection Using Multimodal Deep Learning." (2016): IEEE 7th Annual Ubiquitous Computing, Electronics & Mobile Communication Conference (UEMCON), 2016.

Yang Sen, Zhou Moliang, **Chen Shuhong**, Dong Xin, Ahmad Omar, Burd Randall, Marsic Ivan. "Medical Workflow Modeling Using Alignment-Guided State-Splitting HMM." (2017): 5th International Conference on Healthcare Informatics, 2017.

Li Xinyu, Zhang Yanyi, Zhang Jianyu, Chen Yueyang, **Chen Shuhong**, Gu Yue, Zhou Moliang, Marsic Ivan. "Progress Estimation and Phase Detection for Sequential Processes." ACM Interactive Mobile Wearable and Ubiquitous Technologies (IMWUT, 2017).

HONORS & AWARDS

2021 **Honorable Mention**, NSF Graduate Research Fellowship Program (graduate)
2019 **Honorable Mention**, NSF Graduate Research Fellowship Program (undergrad)
2019 **Dean's Fellowship**, UMD Graduate School of Computer Science
2019 **Startup Allocation**, XSEDE PSC Bridges
2018 **Alan Marc Schreiber Memorial Scholarship**, Rutgers SAS Excellence Award in Math
2017 **Grant for Conference Funding**, Aresty Research Center
2017 **Grant for Conference Funding**, Rutgers Dept. of Electrical & Computer Engineering
2015 **Rutgers Trustee Scholarship**, Rutgers University

2018 **Top 6 Shark-Tank Finalist**, MIT Intern Innovative Idea Challenge
2017 **Best Healthcare Hack**, HackRU F2017
2017 **Best Use of Machine Learning (4th)**, HackRU F2017

2021 nominated for **Sigma Xi** Associate Membership
2018 member of **Phi Beta Kappa** Honors Society
2017 member of Institute for Electrical and Electronics Engineering (**IEEE**)

GRADUATE COURSE PROJECTS

SM-Scraper: Analysis and Visualization of Scraped Social Media Content
Partners: Deepti Bisht, Ophir Gal, Jerry Qian, and Yiheng Xu
S2021 UMD, Intro to Data Visualization, Prof. Leilani Battle
In association with the Full Disclosure Project
Adversarial Attack on Single-view 3D Reconstruction
Partners: Neha Kalibhat, Vedant Nanda
F2021 UMD, Visual Learning & Recognition, Prof. Abhinav Shrivastava
Exploring Lexical and Syntactic Features of Reddit Suicidality Data
Partners: Yow-Ting Shiue, Md Main Uddin Rony
S2020 UMD, Computational Linguistics II, Prof. Philip Resnik
Nori Ray-Tracer
S2020 UMD, Advanced Computer Graphics, Prof. Matthias Zwicker
Transflow: Image-to-Image Translation using Normalizing Flows
Partners: Vaishnavi Patil, Manas Agarwal
F2019 UMD, Machine Learning, Prof. Soheil Feizi
Finding Tree Structures in Deep NLP Models
Partners: Benjamin Black, William Chen, Xiaoyu Liu
F2019 UMD, Computational Linguistics I, Prof. Hal Daume
Incorporating Dependency Relations for Deep Question Answering
Partners: Karl Mulligan, Kevin Pei, Vishal Rohra
S2018 Rutgers, Natural Language Processing, Prof. Matthew Stone

TEACHING EXPERIENCE & MENTORSHIP

M2021 UMD AI4ALL Project Lead: Making Art with Neural Networks
S2020 TA CMSC417: Computer Networks, Prof. Nirupam Roy, UMD
F2019 TA CMSC132: OOP II, Prof. Nelson Pauda-Perez & Pedram Sadeghian, UMD
2016-2019 Lecturer, ML/AI Division Director, Rutgers IEEE E-Board
2016 Tutor, Math & Engineering, Rutgers OSS Educational Opportunity Fund
2013-2016 TA Chinese Second Language, Huaxia Morris Chinese Academy

MS students advised:
2022: Eric Changzhi Li, Srinidhi Hegde
2021: Janus Thor Kristjansson, Jiaxuan Mary Wu

BS students advised:
2022: Andy Qu
2020: Nikhil Pateel