SHUHONG CHEN

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EDUCATION

PhD in Computer Science
University of Maryland – College Park, MD 20742
Advisor: Prof. Matthias Zwicker
Class of 2024 (expected; entered 2019)

BS in Computer Science and Mathematics
Rutgers University, New Brunswick, NJ 08901
Class of 2019
Honors College Scholar, Inaugural Class
Summa cum laude
Minor in Economics

RESEARCH EXPERIENCE

Research Assistant, UMD Department of Computer Science
Advisor: Prof. Matthias Zwicker
June 2020 – present
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.

Summer Intern, MIT Lincoln Laboratory
Advisor: Dr. Michael Chan
June 2018 – August 2018
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
October 2015 – May 2019
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, & Zwicker Matthias. (2021). Improving the Perceptual Quality of 2D Animation Interpolation. arXiv preprint arXiv:2111.12792. (under review)

Chen Shuhong, & Zwicker Matthias. (2021). Transfer Learning for Pose Estimation of Illustrated Characters. arXiv preprint arXiv:2108.01819. (accepted at WACV 2022)

Hadadan Saeed, **Chen Shuhong**, & Zwicker Matthias. (2021). Neural Radiosity. arXiv preprint arXiv:2105.12319. (accepted at 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).

Yang Sen, Dong Xin, Zhou Moliang, Li Xinyu, **Chen Shuhong**, Webman Rachel, Sarcevic Aleksandra, Marsic Ivan, Burd Randall S. "VIT-PLA: Visual Interactive Tool for Process Log Analysis." (2016): KDD Workshop on Interactive Data Exploration and Analytics (IDEA'16). ACM SIGKDD Conference on Knowledge Discovery and Data Mining, 2016.

Gu Yue, Yang Kangning, Fu Shiyu, **Chen Shuhong**, Li Xinyu, Marsic Ivan. "Multimodal Affective Analysis Using Hierarchical Attention Strategy with Word-Level Alignment." (2018): The 56th Annual Meeting of the Association of Computational Linguistics (ACL 2018).

Hu Wangsu, Yao Zijun, Yang Sen, **Chen Shuhong**. "Discovering Urban Travel Demands through Dynamic Zone Correlation in Location-based Social Networks." (2018): European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD 2018).

Gu Yue, Li Xinyu, **Chen Shuhong**, Zhang Jianyu, Marsic Ivan. "Speech Intention Classification with Multimodal Deep Learning." (2017): AI 2017: Canadian Conference on Artificial Intelligence, 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

Exploring Lexical and Syntactic Features of Reddit Suicidality Data
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
Vaishnavi Patil, Manas Agarwal
F2019 UMD, Machine Learning, Prof. Soheil Feizi
Finding Tree Structures in Deep NLP Models
Benjamin Black, William Chen, Xiaoyu Liu
F2019 UMD, Computational Linguistics I, Prof. Hal Daume
Incorporating Dependency Relations for Deep Question Answering
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

2021: Janus Thor Kristjansson & Jiaxuan (Mary) Wu, UMD CS masters
2020: Nikhil Pateel, UMD CS undergraduate