Ekta Prashnani

Research Scientist, NVIDIA | http://prashnani.github.io

Education

Mar 2022 **Doctor of Philosophy, Electrical and Computer Engineering**
University of California, Santa Barbara
Thesis: Data-driven Methods for Evaluating the Perceptual Quality and Authenticity of Visual Media
Advisor: B. S. Manjunath

June 2015 **Master of Science, Electrical and Computer Engineering**
University of California, Santa Barbara

Aug 2013 **Bachelor of Technology, Electrical Engineering, with a minor in Computer Science**
Indian Institute of Technology, Gandhinagar
Capstone project: Light fields for multi-perspective stereoscopy

Experience

Apr 2022 - *present* Research Scientist, Human Performance and Experience
NVIDIA Research, Santa Clara, California
Research interests: perceptual metrics for images and videos, motion processing in videos, authenticity of visual media, generative models for images and videos.

July 2019 - June 2020 Ph.D. intern: perception research for videos
NVIDIA Research, Santa Clara, California
Mentors: Iuri Frosio, Orazio Gallo, Joohwan Kim, and Josef Spjut
Noise-aware training strategies for video-saliency prediction from noisy gaze data.

June 2016 - Sept 2016 Ph.D. intern: Low-light image denoising using flash photography
Adobe Research, San Jose, California
Advisors: Sunil Hadap, and Kalyan Sunkavalli
Flash-based relighting of images for denoising low-light versions of the same scenes.

June 2015 - Sept 2015 Ph.D. intern: 3D Scene understanding
Ricoh Innovations Corp., Menlo Park, California
Advisors: Silvio Savarese, Kathrin Berkner, and Jorge Moraleda
Single-image rectification leveraging scene understanding.

June 2014 - Sept 2014 Ph.D. intern: Image animation using video examples
Nokia Technologies, Sunnyvale, California
Advisors: Maneli Noorkami, and Daniel Vaquero
Phase-based animation of periodically-moving elements in images from videos.

Publications and Preprints

Ekta Prashnani, Micheal Goebel, B. S. Manjunath, "Generalizable Deepfake Detection with Phase-Based Motion Analysis", *In review, Mar. 2022*.

Ekta Prashnani, Orazio Gallo, Joohwan Kim, Josef Spjut, Pradeep Sen, Iuri Frosio, "Noise-Aware Video Saliency Prediction", *British Machine Vision Conference, 2021*.

Ekta Prashnani*, Herbert Cai*, Yasamin Mostofi, Pradeep Sen, "PieAPP: Perceptual Image-Error Assessment through Pairwise Preference", *Computer Vision and Pattern Recognition, 2018*.

Ekta Prashnani, Maneli Noorkami, Daniel Vaquero, Pradeep Sen, "A Phase-based Approach for Animating Images using Video Examples", *Computer Graphics Forum, August 2016*.

Patents (pending / granted)

May 2021	Gaze determination using one or more neural networks Publication number: US20210132688A1
Dec 2019	Pair-wise or n-way learning framework for error and quality estimation Publication number: WO2019236560A1
Feb 2018	Single Image Rectification Patent number: US9904990B2
July 2016	Methods and apparatus for processing motion information images Publication number: WO2016108847A1
May 2015	Local Scale, Rotation and Position Invariant Word Detection for Optical Character Recognition Patent number: US9025877B2

Awards

Oct 2021	ICCV 2021 Doctoral Consortium
June 2021	Dissertation fellowship awarded by the UCSB ECE department
July 2019	USD 80,000 grant for Google Cloud Platform (Google Cloud for Startups, Surge)
May 2019	Outstanding Teaching Assistant (Dept. of Electrical and Computer Engg. at UCSB)
May 2018	Outstanding Teaching Assistant (Dept. of Electrical and Computer Engg. at UCSB)
Apr 2018	Google Travel Grant for CVPR2018
Dec 2017	Semi-finalist for Qualcomm Innovation Fellowship
Sept 2017	AI Grant Fellowship (with USD 20,000 on Google Cloud Platform)
Dec 2015	Harold Frank scholarship at UCSB

Teaching

Sept 2020 - June 2021	Teaching assistant (one course per quarter): Introduction to Digital Image and Video Processing, Introduction to Computer Vision, Introduction to Deep Learning.
July 2020 - Aug 2020	Research mentor for high school students (UCSB Research Mentorship Program) Design and mentorship of summer research for high-school students related to deep generative models for 3D modeling and image generation.
Sept 2017 - June 2019	Teaching assistant: capstone projects (electrical engineering) Technical mentorship to senior undergraduate capstone projects for applications of machine learning to medical imaging (position held for two academic years).
July 2017 - Aug 2017	Research mentor for high school students (UCSB Research Mentorship Program) Designed and mentored summer research projects for four high-school students involving deep learning for object detection and image restoration.
Sept 2016 - June 2017	Teaching assistant: capstone projects (electrical engineering) Technical mentorship to senior undergraduate capstone projects in the field of computer vision and machine learning (one team secured the *Best Technical Capstone project* award for their project on image super-resolution).

Reviewing

Transactions on Image Processing; NeurIPS SVRHM workshop; Transactions on Pattern Analysis and Machine Intelligence; Journal of Electronic Imaging; Siggraph Asia 2020; ECCV, CVPR ICCV since 2021.

References

Prof. B.S. Manjunath: manj@ucsb.edu (Professor, Dept. of Electrical and Computer Engineering)
Dr. Iuri Frosio: ifrosio@nvidia.com (Principal Research Scientist, Nvidia)
Dr. Orazio Gallo: ogallo@nvidia.com (Principal Research Scientist, Nvidia)