Jason Rock

Computer Vision

Siebel Center
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Education

2012-2019 **PhD, Computer Science**, *The University of Illinois*, Urbana-Champaign, Computer Vision, Advisor: David Forsyth.

2008-2012 **BS, Computer Science**, *Rensselaer Polytechnic Institute*, Troy NY, Magna Cum Laude.

Publications

2013 K. Karsch, Z. Liao, J. Rock, J. Barron, and D. Hoiem. Boundary cues for 3D object shape recovery. *CVPR 2013*

Z. Liao, J. Rock, and D. Forsyth. Non-parametric filtering for geometric detail extraction and material representation. *CVPR 2013*

2015 J. Rock, T. Gupta, J. Thorsen, J. Gwak, D. Shin, D. Hoiem. Completing 3D Object Shape from One Depth Image. *CVPR 2015*

A. Deshpande, J. Rock and D. Forsyth. Learning Large-Scale Automatic Image Colorization *ICCV 2015*

2016 J. Rock, T. Issaranon, A. Deshpande, D. Forsyth. Authoring image decompositions with generative models. *Arxiv Dec 2016*

2017 J. Rock, T. Issaranon, D. Forsyth. Removing rain, cracks, glare, and reflections with a novel image prior. *Unpublished*

2018 A. Bhattad, J. Rock, D. Forsyth. Detecting Anomalous Faces with No Peeking Autoencoders. *Arxiv Jan 2018*

J. Rock, D. Forsyth. Face-TO-Face: Editing face appearance with Transformation Operators. *Unpublished*

2019 J. Rock, D. Forsyth. Gravely Unsupervised OCR. *Unpublished*

J. Rock, D. Forsyth. Evaluating Intrinsic Image Models with Reshading. *Unpublished*

Awards

2016-2017 Mavis Future Faculty Fellowship

Experience

Academic

2012-2019 *Research Assistant* **University of Illinois** Urbana, IL

Spring 2017 *Teaching Assistant* **University of Illinois** Urbana, IL

CS498 Applied Machine Learning

Held office hours, managed graders, and gave a 2-part lecture on Auto-Encoding.

2010-2012   *Undergraduate Researcher* **RPI** Troy, NY
> Proposed a new method for correcting color variations caused by inconsistent lighting in underwater images. Currently in use for HABCAM images.
>
> Undergraduate Research Symposium Honorable Mention for Illumination work (Spring 2011)

Summer 2011   *Guest Student (HABCAM)* **Woods Hole Oceanographic Institute** Woods Hole, MA
> Applied computer vision with a focus on illumination correction and substrate identification.

Outreach

2013-2014   *Mentor* **Illinois Mathematics and Science Academy** Student Inquiry and Research
> https://www.imsa.edu/site_section/student-research/
>
> Advising gifted high school students performing research in computer vision and graphics.

2014   *Mentor* **UIUC** PURE
> https://pure.engr.illinois.edu/
>
> Advising UIUC undergraduates on research projects related to computer vision.

Industry

Summer 2015   *Software Engineering Intern (Google Research)* **Google** New York NY
> Co-learning depth prediction and semantic segmentation from Kinect images using deep nets.

Summer 2014   *Software Engineering Intern (Steve Seitz)* **Google** Seattle WA
> Understanding what's in photographs by combining structure from motion and classification.

Summer 2013   *Software Engineering Intern (Streetview)* **Google** Mountainview CA
> Visually ranking geotagged panoramas using object recognition for Google Maps.

Summer 2012   *Serverside Quality Assurance Engineering* **Palantir** Palo Alto CA
> Created a distributed scripting framework for automation of multi-user testing.

Summer 2010   *Engineering Intern (Data Center Build Team)* **Cisco Systems** San Jose, CA
> Significantly reduced build time for a large non-recursive make system through caching.
> Added support for static analysis of disjoint makefile parts.

▬▬▬ Technical Skills

Proficient: Python, PyTorch
Experience: TensorFlow, Matlab, C++, Java,

▬▬▬ Leadership and Service

2017   **Illinois Admission Committee. Student Member**

2015-2017   **Computer Science Graduate Academic Council, Member**

2016   **Qualifying Exam Mentor**: Artificial Intelligence

2014, 2016   **Illinois Mathematics and Science Academy** Admissions Review Committee

2013-2015   **Computer Science Graduate Student Organization, Secretary**: Organize events and perks for graduate students in the department.

2012-2016   **PhD Ambassador and Mentor**: Recruit and mentor new graduate students within the department.

2011-2012   **RPI Upsilon Pi Epsilon Public Relations Chair**: Ran outreach to industry connections for the RPI UPE chapter.