

Kushal KAFLE

PERSONAL INFO

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RESEARCH INTERESTS

Machine Learning, Deep Learning, Computer Vision, Natural Language Processing (NLP), Visual Question Answering (VQA)

EDUCATION

AUG 2014 - CURRENT	Ph.D. in IMAGING SCIENCE , Chester F. Carlson Center for Imaging Science Rochester Institute of Technology, Rochester, NY Advisor: Dr. Christopher Kanan Research Group: klab Thesis Title: Towards language-grounded visual learning
OCT 2008 - DEC 2012	Bachelor's Degree in ELECTRONICS AND COMMUNICATION ENGINEERING , Institute of Engineering, Tribhuvan University, Kathmandu, Nepal Elective Specialization: Image Processing and Pattern Recognition

PUBLICATIONS

CVPR	Shrestha, R., Kafle, K. , and Kanan, C. (2018). Answer Them All! Toward Universal Visual Question Answering Models. <i>IEEE Conference on Computer Vision and Pattern Recognition (CVPR 2019)</i> .
AAAI	Acharya, M., Kafle, K. , and Kanan, C. (2018). TallyQA: Answering Complex Counting Questions. <i>Association for the Advancement of Artificial Intelligence (AAAI 2018)</i> .
CVPR	Kafle, K. , Cohen, S., Price, B., and Kanan, C. (2018). DVQA: Understanding Data Visualizations via Question Answering. <i>IEEE Conference on Computer Vision and Pattern Recognition (CVPR 2018)</i> .
ICCV	Kafle, K. and Kanan, C. (2017) An analysis of visual question answering algorithms. <i>International Conference on Computer Vision (ICCV 2017)</i> .
INLG	Kafle, K. , Yousefhussein, M., and Kanan, C.. (2017) Data augmentation for visual question answering. <i>International Natural Language Generation Conference (INLG 2017)</i> .
CVIU	Kafle, K. and Kanan, C. (2017) Visual question answering: Datasets, algorithms, and future challenges. <i>Computer Vision and Image Understanding (CVIU)</i> .

CVPR	Kafle, K. and Kanan, C. (2016) Answer-type prediction for visual question answering. <i>IEEE Conference on Computer Vision and Pattern Recognition (CVPR 2016)</i> .
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RESEARCH EXPERIENCE

MAY 2017- MAR 2018	RESEARCH INTERN Adobe Research, San Jose, CA Mentors: Dr. Scott Cohen and Dr. Brian Price Group: Vision Group Highlights: Developed novel data and deep learning algorithm for understanding data visualization. Published findings in CVPR 2018.
JULY 2015- PRESENT	RESEARCH ASSISTANT Chester F. Carlson Center for Imaging Science, Rochester Institute of Technology, Rochester, NY Advisor: Dr. Christopher Kanan Group: klab Highlights: Research towards Ph.D dissertation on topics of language grounded visual understanding. Findings published in several high-impact conferences and journals.
NOV 2012 - DEC 2012	RESEARCH ASSISTANT Radio Frequency (RF) and Microwave Engineering Lab, Tribhuvan University, Institute of Engineering, Kathmandu, Nepal Mentor: Dr. Nanda Bikram Adhikari Highlights: Demonstrated potential attacks and security risks on electronic voting system based on ISO/IEC14443 HF-RFID tags

TEACHING EXPERIENCE

AUG 2014 - MAY 2015	TEACHING ASSISTANT Chester F. Carlson Center for Imaging Science, Rochester Institute of Technology, Rochester, NY Highlights: Teaching Assistant for courses <i>Radiometry and Fundamentals of Imaging Science</i>
MAY 2013 - OCT 2013	LECTURER College of Information Technology and Engineering, Purbanchal University, Kathmandu, Nepal Highlights: Taught an undergraduate semester course on <i>Image Processing and Pattern Recognition</i>

HONORS , AWARDS AND GRANTS

- **Outstanding Reviewer Computer Vision and Pattern Recognition (CVPR 2018)**
Awarded to about 6.9% of all reviewers.
- **Travel Award - 2016 Deep Learning Summer School**
Registration fee waiver granted to attend deep learning summer school, 2016
- **Amazon AWS Research Grant**
Co-applied with Dr. Christopher Kanan. Worth \$15,000 in AWS credits.
- **R&D Grant from Alternative Energy Promotion Center**
Team Lead for grant awarded for developing prototype remote monitoring system.

- **Winner of National Design Competition**

Team lead for the winning design for the nationwide system design competition "*Electronically Operated Innovative Monitoring System for Solar Home Systems installed in Rural Areas of Nepal*" organized by Alternative Energy Promotion Center, Under ministry of Environment and Population, Nepal Government.

- **Scholarship from Ministry of General Administration, Nepal Government**

Awarded only to 200 Engineering, Science, and Medicine students across the country.

SKILLS

Deep Learning Packages	Tensorflow, PyTorch, Keras
Proficient in Programming	Python, MATLAB
Other Skills	Git, \LaTeX , Crowd-sourcing using Amazon Mechanical Turk (AMT)

PROFESSIONAL SERVICES

- **Workshop Organization:**

- Workshop on shortcomings in vision and language (SiVL) at ECCV, 2018
- Workshop on shortcomings in vision and language (SiVL) at NAACL, 2019

- **Conference Reviewing:**

- Neural Information Processing System (NeurIPS) - 2016,2019
- International Conference on Image Processing (ICIP) - 2017
- International Conference on Computer Vision (ICCV) - 2019
- Computer Vision and Pattern Recognition (CVPR) - 2017, 2018, 2019
- Association for the Advancement of Artificial Intelligence (AAAI) - 2017

- **Journal Reviewing:**

- Computer Vision and Image Understanding (CVIU) - 2017,2018
- ACM Transactions of Multimedia Computing Communications and Applications (TOMM) - 2018,2019

LANGUAGES

NEPALI:	Native proficiency
ENGLISH:	Full professional proficiency (TOEFL score: 118/120)
HINDI:	Limited working proficiency