

# Kushal KAFLE

## PERSONAL DATA

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## RESEARCH INTERESTS

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Machine Learning, Deep Learning, Visual Question Answering, Vision and Language

## EDUCATION

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AUG 2014 -PRESENT	<b>Ph.D. in IMAGING SCIENCE</b> , Chester F. Carlson Center for Imaging Science Rochester Institute of Technology, Rochester, NY <b>Advisor:</b> Dr. Christopher Kanan   <b>Research Group:</b> <a href="#">klab</a> <b>Courses:</b> Image Processing and Computer Vision, Human Visual System, Statistical Machine Learning, Deep Learning for Vision, Advanced Topics in Deep Learning
OCT 2008 - DEC 2012	<b>Bachelor's Degree in ELECTRONICS AND COMMUNICATION ENGINEERING</b> , Institute of Engineering, Tribhuvan University, Kathmandu, Nepal <b>Elective Specialization:</b> Image Processing and Pattern Recognition

## PUBLICATIONS

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ICCV	<b>Kafle, K.</b> and Kanan, C. (2017) An analysis of visual question answering algorithms. <i>International Conference on Computer Vision</i> .
INLG	<b>Kafle, K.</b> , Yousefhussein, M., and Kanan, C.. (2017) Data augmentation for visual question answering. <i>International Natural Language Generation Conference</i> .
CVIU	<b>Kafle, K.</b> and Kanan, C. (2017) Visual question answering: Datasets, algorithms, and future challenges. <i>Computer Vision and Image Understanding</i> .
CVPR	<b>Kafle, K.</b> and Kanan, C. (2016) Answer-type prediction for visual question answering. <i>IEEE Conference on Computer Vision and Pattern Recognition</i> .

## RESEARCH EXPERIENCE

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MAY 2017 - PRESENT	<b>RESEARCH INTERN</b> Adobe Research, San Jose, CA <b>Mentors:</b> Dr. Scott Cohen and Dr. Brian Price   <b>Group:</b> <a href="#">Vision</a> <b>Topics:</b> Vision and Language, Deep Learning
JULY 2015 - PRESENT	<b>RESEARCH ASSISTANT</b> Chester F. Carlson Center for Imaging Science, Rochester Institute of Technology, Rochester, NY <b>Advisor:</b> Dr. Christopher Kanan   <b>Group:</b> <a href="#">klab</a> <b>Topics:</b> Deep Learning, Visual Question Answering

NOV 2012 - DEC 2012	<b>RESEARCH ASSISTANT</b> Radio Frequency (RF) and Microwave Engineering Lab, Tribhuvan University, Institute of Engineering, Kathmandu, Nepal <b>Topics:</b> Theoretical study and laboratory demonstration of the security risks and potential attacks on the proposed electronic voting system based on ISO/IEC14443 HF-RFID tags.
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## TEACHING EXPERIENCE

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AUG 2014 - MAY 2015	<b>TEACHING ASSISTANT</b> Chester F. Carlson Center for Imaging Science, Rochester Institute of Technology, Rochester, NY <b>Responsibilities:</b> Designed, conducted, and graded laboratory exercises and homework assignments for <i>Radiometry</i> and <i>Fundamentals of Imaging Science</i>
MAY 2013 - OCT 2013	<b>LECTURER</b> College of Information Technology and Engineering, Purbanchal University, Kathmandu, Nepal <b>Responsibilities:</b> Taught one semester course on <i>Image Processing and Pattern Recognition</i> . Tasks included lecturing and creating and grading tutorial modules, homeworks, and programming assignments.

## OTHER WORK EXPERIENCE

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JUNE 2013- SEPT 2013	<b>SOFTWARE DEVELOPER</b> Technology Sales Pvt. Ltd. Kathmandu, Nepal <b>Responsibilities:</b> Developed front and back-end software for a tollbooth-style vehicle checkpoint entry system using smartcard. Successfully deployed in a small-scale real-world pilot study.
APR 2013 - JULY 2013	<b>R&amp;D CONSULTANT</b> Alternative Energy Promotion Center, Lalitpur, Nepal Ministry of Environment and Population, Nepal Government <b>Responsibilities:</b> Developed a Prototype remote monitoring system for tracking the operation of Solar Home Systems installed in rural areas of Nepal.

## SCHOLARSHIPS , AWARDS AND GRANTS

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- **Travel Award - 2016 Deep Learning Summer School**  
Registration fee waiver granted to attend deep learning summer school, 2016
- **Amazon AWS Research Grant**  
Together 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 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 to only 200 Engineering, Science, and Medicine students across the country.

## SKILLS

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Deep Learning Packages	Tensorflow, PyTorch, Keras, Caffe, MatConvNet
Proficient in Programming	Python, Matlab, C++
Also Familiar With	C, Java, C#, IDL, R
Basic Web and Databases	HTML, CSS, JavaScript, JQuery, CherryPy, PHP, Nginx, Apache, MySQL
Other Skills	Git, $\text{\LaTeX}$ , Crowd-sourcing using Amazon Mechanical Turk (AMT)

## REVIEWING

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- Conferences: NIPS 2016, ICIP 2017, AAAI 2017, CVPR 2017

## MEMBERSHIP

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- IEEE, Computer Vision Foundation (CVF)

## LANGUAGES

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

## OTHER INTERESTS AND ACTIVITIES

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PHOTOGRAPHY	Previously, an avid travel and landscape photographer. <ul style="list-style-type: none"><li>• Top-25 in 'Hamro Nepal' (Translated 'Our Nepal') Competition/Exhibition; organized by ARTUDIO, 2012</li><li>• Finalist in 'The Best of Nepal' photo Competition/Exhibition; organized by ROTASIA</li></ul>
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