

## MANOJ ACHARYA

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### RESEARCH INTERESTS

Machine Learning (Deep Learning), Computer Vision, Natural Language Processing (NLP), Vision and Language (Visual Question Answering (VQA), Captioning, Dialogue systems).

### EDUCATION

2016 – now	Ph.D., Imaging Science Chester F. Carlson Center for Imaging Science Rochester Institute of Technology, Rochester, NY <i>Adviser: Christopher Kanan</i>
2009 – 2013	B.E, Electronics and Communication Engineering Institute of Engineering Lalitpur, Nepal <b>Project I:</b> Image Processing Based “Ball and Beam” control system <b>Project II:</b> Real Time Nepali Sign Language Recognition using Neural Network

### RESEARCH PUBLICATIONS

1. REMIND Your Neural Network to Prevent Catastrophic Forgetting ( [In review](#) )  
*Tyler L. Hayes, Kushal Kafle, Robik Shrestha, **Manoj Acharya**, Christopher Kanan*
2. RITnet: Real-time Semantic Segmentation of the Eye for Gaze Tracking (ICCV 2019) [\[Winning Submission\]](#)  
*Aayush Chaudhary\*, Rakshit Kothari\*, **Manoj Acharya\***, Shusil Dangi, Nitinraj Nair, Reynold Bailey, Christopher Kanan, Gabriel Diaz, Jeff B. Pelz.*
3. VQD: visual query detection in natural scenes (NAACL 2019)  
***Manoj Acharya**, Karan Jariwala, Christopher Kanan*
4. TallyQA: answering complex counting questions (AAAI 2019) [\[Spotlight presentation\]](#)  
***Manoj Acharya**, Kushal Kafle, Christopher Kanan*
5. Computer vision based hand gesture recognition for speech disabled persons.  
Journal of the Institute of Engineering, 2015  
***Manoj Acharya**, Diwakar Raj Pant*

\* = Equal Contribution

## TALKS AND POSTERS

1. "Know *thy* Enemy: Invasive Species Detection in High Resolution Imagery", WNYISPW 2019. (Poster)
2. On Unifying Deep Generative Models, Mathematics for Deep Learning Reading Group 2019. (Talk)
3. "TallyQA: Answering Complex Counting Questions", Vision and Language Session (Spotlight Talk)
4. "TallyQA: Answering Complex Counting Questions", Reasoning and Complex QA Workshop at AAAI 2019 (Poster + Talk)
5. "TallyQA: Answering Complex Counting Questions", ViGIL workshop at NeurIPS 2018 (Poster)

## RESEARCH EXPERIENCE

- 2013 – 2014      Researcher, PowerTech Nepal  
Mentor: Surendra Mathema  
Highlights: Developed inexpensive solutions to disseminate health awareness in rural hospitals. Also made embedded systems for hospitals, micro-hydro projects, disaster response units etc.
- 2015 – 2016      Software Developer, IT Expert  
Highlights: Developed a MATLAB application to produce 3D printed artifacts with visualization tools for planning and guiding dental surgeries.

## TEACHING EXPERIENCE

- 2018      Teaching Assistant, Rochester Institute of Technology  
Deep Learning for Computer Vision
- 2016 - 2017      Teaching Assistant, Rochester Institute of Technology  
Image Processing and Computer Vision I  
Image Processing and Computer Vision II
- Fall 2013      Lecturer, Thapathali Engineering College  
Image processing and pattern recognition

## PROFESSIONAL SERVICES

Conference Reviews:

- Workshop on Shortcomings of Vision and language (SiVL) at ECCV 2018 and NAACL 2019
- EMNLP 2019
- NeurIPS 2019

- Western New York Image and Signal Processing Workshop (WNYISPW) 2019
- AAAI 2020

### **TECHNICAL SKILLS**

Languages: English, Nepali (mother tongue), Hindi, Spanish (elementary).

Programming Languages: Python, C , C++, LATEX.

Deep/ML Toolboxes: MatConvNet, Scikit-Learn, Pytorch.

Web Development: HTML, CSS, JavaScript.

### **AWARDS AND ACHIEVEMENTS**

- Won the Facebook OpenEds Challenge in Facebook AR/VR research workshop in ICCV 2019. ( Cash prize + Travel scholarship)
- Travel grant to attend AAAI 2019, Hawaii.
- Best Student Poster Award in the annual RIT graduate showcase.
- Second position in Ethical Hacking competition organized by LOCUS 2011.
- Merit Award, Four years merit based scholarship for outstanding students.