

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 Project I: Image Processing Based “Ball and Beam” control system Project II: 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 inhouse display solutions to disseminate health related information for hospitals. Also helped in designing embedded systems for hospitals, micro-hydro projects and disaster response units.
- 2015 – 2016 Software Developer, IT Expert
Highlights: Developed a dental assistant software in MATLAB for planning and guiding tooth surgeries using 3D printing.

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
- AAI 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 at ICCV 2019. (Cash prize + Travel scholarship)
- Travel grant to attend AAI 2019 conference at Hawaii.
- Best Student Poster Award in the annual RIT graduate showcase.
- Second position in Ethical Hacking competition organized by LOCUS 2011.
- Four years of merit based scholarship for outstanding students at IOE, Pulchowk.