

MANOJ ACHARYA

307 Robert Quigley Dr, Scottsville, NY, 14546

Email: ma7583@rit.edu

Cell: 585.364.5971

Web: www.manojacharya.com

RESEARCH INTERESTS

Machine Learning (Deep Learning), Computer Vision, Object Detection, Natural Language Processing (NLP), Lifelong Learning, Vision and Language e.g. Visual Question Answering (VQA).

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 (* = Equal Contribution)

1. RODEO: Replay for Online Object Detection (BMVC 2020)
Manoj Acharya, Tyler L. Hayes, and Christopher Kanan
2. REMIND Your Neural Network to Prevent Catastrophic Forgetting (ECCV 2020)
Tyler L. Hayes*, Kushal Kafle*, Robik Shrestha*, **Manoj Acharya**, Christopher Kanan
3. 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.
4. VQD: visual query detection in natural scenes (NAACL 2019)
Manoj Acharya, Karan Jariwala, Christopher Kanan
5. TallyQA: answering complex counting questions (AAAI 2019) [Spotlight presentation]
Manoj Acharya, Kushal Kafle, Christopher Kanan
6. Computer vision based hand gesture recognition for speech disabled persons.
Journal of the Institute of Engineering, 2015
Manoj Acharya, Diwakar Raj Pant

TALKS AND POSTERS

1. Guest Lecturer for Khwopa College of Engineering, Nepal - Talked about Introduction to AI and Lifelong Learning.
2. Guest Lecturer for RIT's Deep Learning Course designed for graduate students. - Talked about object detection and Language&Vision.
3. "Robust, real-time Semantic Segmentation of the Eye for Gaze Tracking", Frameless Symposium 2019 (Talk)
4. "Know thy Enemy: Invasive Species Detection in High Resolution Imagery", WNYISPW 2019. (Poster)
5. On Unifying Deep Generative Models, Mathematics for Deep Learning Reading Group 2019. (Talk)
6. "TallyQA: Answering Complex Counting Questions", Vision and Language Session (Spotlight Talk)
7. "TallyQA: Answering Complex Counting Questions", Reasoning and Complex QA Workshop at AAAI 2019 (Poster + Talk)
8. "TallyQA: Answering Complex Counting Questions", ViGIL workshop at NeurIPS 2018 (Poster)

RESEARCH EXPERIENCE

2016 – now	Graduate Research Assistant, RIT
2015 – 2016	Software Developer, IT Expert Highlights: Developed a dental assistant software in MATLAB for planning and guiding tooth surgeries using 3D printing.
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.

TEACHING EXPERIENCE

2018	Graduate Teaching Assistant, Rochester Institute of Technology Class: Deep Learning for Computer Vision
2016 - 2017	Teaching Assistant, Rochester Institute of Technology Classes: Image Processing and Computer Vision I & II
2013	Lecturer, Thapathali Engineering College Class: 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
- NeurIPS Reproducibility Challenge 2019
- AAAI 2020
- ACL 2020
- BMVC 2020

TECHNICAL SKILLS

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

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

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

Web Development: HTML, CSS, JavaScript.

AWARDS AND ACHIEVEMENTS

- First prize - Facebook OpenEds Challenge, ICCV 2019 AR/VR research workshop (Cash prize + Travel scholarship)
- Travel grant to attend AAAI 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.