Kushal Kafle

Personal Data

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Research Intersts

Machine Learning, Computer Vision, Deep Learning, Image and Natural Language Understanding

Education

Aug 2014 - Current	Ph.D. Student in Imaging Science, Chester F. Carlson Center for Imaging Science Rochester Institute of Technology, Rochester, NY **Advisor**: Dr. Christopher Kanan | **Research Group**: klab
Oct 2008 - Dec 2012	Bachelor's Degree in Electronics and Communication Engineering, Tribhuvan University, Institute of Engineering, Kathmandu, Nepal **Elective Specialization**: Image Processing and Pattern Recognition

Publications

- **Kafle, K.**, Kanan, C. (2016) Answer-Type Prediction for Visual Question Answering. In: Proc. IEEE Conference on Computer Vision and Pattern Recognition (CVPR-2016)

Abstracts and Posters

- Kanan, C., **Kafle, K.** (2016) A Bayesian Model of Visual Question Answering. 16th Annual Meeting, Vision Sciences Society, St. Pete Beach, Florida.

Research Experiences

July 2015 - Current	**Research Assistant** Chester F. Carlson Center for Imaging Science, Rochester Institute of Technology, Rochester, NY **Advisor**: Dr. Christopher Kanan | **Research Group**: klab **Topics** : Computer Vision, Deep Learning, Visual Question Answering, Natural Language Processing
Apr 2013 - July 2013	**R&D Consultant** Alternative Energy Promotion Center, Lalitpur, Nepal Ministry of Environment and Population, Nepal Government **Tasks** : Did feasibility study of remote monitoring scheme for Solar Home Systems in rural areas. Developed Prototype remote monitoring system.
Nov 2012 - Dec 2012	**Research Assistant** RF and Microwave Engineering Lab, Tribhuvan University, Institute of Engineering, Kathmandu, Nepal **Tasks** : Demonstrated the vulnerability of ISO/IEC14443 HF-RFID tags with regards to its use in e-Voting system. Designed and reproduced security risks and potential attacks in laboratory.

Teaching Experiences

Jan 2015 - May 2014	**Teaching Assistant** Chester F. Carlson Center for Imaging Science, Rochester Institute of Technology, Rochester, NY **Under**: Dr. Emmett Ientilucci | **Class**: Radiometry **Tasks** : Designed, conducted and graded laboratory exercises and homework assignments
Aug 2014 - Dec 2014	**Teaching Assistant** Chester F. Carlson Center for Imaging Science, Rochester Institute of Technology, Rochester, NY **Under**: Dr. Anthony Vodacek | **Class**: Fundamentals of Imaging Science **Tasks** : Conducted and graded laboratory exercises
May 2013 - Oct 2013	**Lecturer** College of Information Technology and Engineering, Purbanchal University, Kathmandu, Nepal **Subject:** Image Processing and Pattern Recognition **Tasks:** Taught lecture and tutorial module as per existing syllabus. Designed, conducted and graded laboratory exercises and homework assignments.

Work Experiences

June 2013- Sept 2013	**Software Developer** Technology Sales Pvt. Ltd. Kathmandu, Nepal **Responsibilities** : Developed an user-friendly interface in Visual C# for smart-card based vehicle checkpoint entry system installed nationwide. Functions included tracking and logging trips in central database, issuing, verifying and renewing permit imprinted in smart card etc.

Scholarships , Awards and Grants

MAR 2016	**AWS Research Grant** Applied with Dr. Christopher Kanan. worth $15000 in AWS credits.
APR 2013	**Grant from Alternative Energy Promotion Center (Contract number: 245160)** Team Lead on Grant of NRs. 67900, awarded for development of prototype remote monitoring system.
DEC 2012	**Winner of Nationwide Design Competition** Team lead of winning design of open design competition entitled "Electronically Operated Innovative Monitoring System for Solar Home Systems installed in Rural Areas of Nepal" organised by Alternative Energy Promotion Ceneter, Under ministry of Environment and Population, Nepal Government.
2009-2012	**Scholarship from Nepal Government** Scholarship from Ministry of General Administration, Scholarship Division Committee. Granted only to 200 Engineering, Science and Medicine students each year across the country.
2008-2012	**College Fellowship Scholarship** Granted by Tribhuvan University based on Merit per semester. Fellowship granted on six out of eight semesters.

Skills

Deep Learning Packages	Caffe, Matconvnet and (Basic) Theano
Competent in Programming	C, C++, MATLAB, PYTHON,
Also Familiar With	Java, C#, IDL, PIC Micro-controller Programming, Assembly (8085, 8086)
Web Programming Stack	HTML, CSS, JavaScript, JQuery, CherryPy, PHP, Basic Server Configuration in Nginx and Apache, Databases in SQLite and MySQL
Operating Systems	Linux (Ubuntu), Microsoft Windows (XP and above), Mac OS-X (Basic)
TypeSetting & Spreadsheet:	Open Office, Excel, Word, PowerPoint, LaTeX

Languages

Nepali:	Mothertongue
English:	Fluent	TOEFL score of **118/120**	Equivalent IELTS score of band **9.0/9.0**
Hindi:	Basic Reading and Conversation Skills

Memberships

- IEEE Student Member

Other Interests and Activities

Photography	I enjoy taking pictures and learning new techniques. But I am not as engaged as in the past • Top-25 in "Hamro Nepal" (Translated "Our Nepal") Competition/Exhibition by ARTUDIO, 2012 • Finalist in "The Best of Nepal" photo Exhibition by ROTASIA-2012
In spare Time	I enjoy reading (fiction and non-fiction), Hiking, Board Games, Keeping up with current affairs and tech advancements.