

Raghavendra Kotikalapudi

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<https://github.com/raghakot>

AWARDS AND ACHIEVEMENTS

- ▷ 2017 Facebook Seattle ML Hackathon Winner. [Geekwire Article](#).
- ▷ Masters Thesis Chapter Media Coverage. Noteworthy sources include [MSNBC](#), [TIME](#), [Forbes](#), [Times of India](#), [ACM TechNews](#), and [Slashdot](#). Published [NYTimes](#) Op-ED
- ▷ Golden Volcano Award - Online Services Division Science Fair, Microsoft
- ▷ Best Social App Award - Microsoft Fargo Hackathon 2014
- ▷ 2012 Microsoft Team Innovation Award
- ▷ CS Academic Achievement Award - 2010 & 2011, Missouri S&T
- ▷ Scholarship for Academic Excellence, SMVD University, India

WORK EXPERIENCE

DEC 2014	Software Engineer (ML), Amazon , Seattle
PRESENT	<p>Built various scalable ML models and backend systems for Amazon Instant Video X-Ray feature. My major contributions include an end-end actor identification pipeline, Face recognition using metric learning, adult video classifier, and video scene segmentation.</p> <p>Currently focused on building ML models to generate video metadata in order to improve search and recommendations. We use video, audio and text data with supervised/unsupervised learning to generate additional signals for upstream systems.</p>
SEPT 2011	Software Engineer, Microsoft Corporation , Fargo
NOV 2014	Built several end-end backends and full stack systems. Developed cross-platform apps (iOS, Android, and Windows Phone) using HTML5/JS and Cordova.
AUG 2010	Research Assistant, <i>Computational Intelligence Lab</i> , Missouri S&T
AUG 2011	THESIS Advisors: Dr. Sriram CHELLAPPAN, Dr. Donald WUNSCH Developed a non-intrusive method for identifying depression among college students using packet level network information through machine learning.
SEPT 2010	Research Assistant, <i>Virtual Reality Lab</i> , Missouri S&T
DEC 2010	Advisors: Dr. Frank LIU, Dr. Ming LEU <ul style="list-style-type: none">▷ Coordinated/Led a team of 10 to develop a low cost simulation environment for landmine detection training. Our research project was featured on US Army Lab Website▷ Specifically worked on optimizing data communication between NINTENDO WIIMOTE sensors and Simulation System for faster frame rates.
MAY 2010	Research Intern, Advanced Military Equipments Inc , Dixon
AUG 2010	Supervisor: Greg PIERSON Developed an algorithm to improve the simulation frame rate of the Landmine detection training simulator from 15 to 85 fps resulting in 20% hardware cost reduction.
JAN 2010	Research Assistant, <i>Cognitive Studies Lab</i> , Missouri S&T , Rolla
MAY 2010	Advisors: Dr. Sriram CHELLAPPAN, Dr. Jacqueline BICHSEL
REPORT	Identified intervention strategies for reducing math anxiety and improving math performance through various statistical methods.

COMMERCIAL SIDE PROJECTS

Nov 2014	WatNow App http://www.watnowapp.com/ Bored? Need ideas on how to kill time? The app serves as a friendly companion to answers these questions by recommending activities, restaurants, events, movies to watch, amongst others. We use machine learning to generate recommendations with an emphasis on preserving diversity. This is still a work in progress.
DEC 07 APR 09	CAAMS Suite http://tinyurl.com/CAAMSReport CAAMS is an integrated management suite for universities. I was primarily involved with the UX and architecture design. It was showcased during Sun Tech Days 2009 at Hyderabad, during Key Note speech by Joe Harley, VP, Sun Microsystems Global education wing.

NOTABLE OPEN SOURCE PROJECTS

[keras-vis](#)

A high-level library for visualizing and debugging keras models. Currently supports activation maximization, saliency and class activation maps with a clean interface to extent to any use-cases that might optimize N-dim inputs based on some weighted loss function.

[keras-text](#)

Keras library for all your text classification needs. Provides a clean interface to create existing SOTA models and allows you to generate complex architectures with the right level of abstraction.

[deep-learning-experiments](#)

Code for various research experiments described on my blog.

TECHNICAL SKILLS

Languages	Java, C#, Python, Javascript, C++
Front end	HTML5, Silverlight, WPF, XAML, Swing
AWS	DynamoDB, SQS, SNS, Lambda, RDS, SWF, Mechanical Turk
Machine Learning	Keras, Tensorflow, MXNet, nltk/spacy, numpy, scipy, scikit-learn

EDUCATION

AUGUST 2011	Master of Science in COMPUTER SCIENCE GPA: 3.9/4.0 Missouri University of Science and Technology , Rolla Thesis: “Depression Classification via Internet Usage Patterns” Technical Papers: Hybrid EA , COEA Pacman , HOOMT Metrics Advisors: Dr. Sriram CHELLAPPAN, Dr. Donald WUNSCH
MAY 2009	Bachelors of Technology in COMPUTER SCIENCE GPA: 8.11/10.0 Shri Mata Vaishno Devi University , India Major Project: “Neural Network based Weather Prediction System” Advisor: Dr. M.L. Garg

JOURNAL PAPERS

- 1) V. Hongal, **R. Kotikalapudi** and M. Choi, “Design, Test, and Repair of MLUT (Memristor Look-Up Table) Based Asynchronous Nanowire Reconfigurable Crossbar Architecture,” in *IEEE Journal on Emerging and Selected Topics in Circuits and Systems*, vol. 4, no. 4, pp. 427-437, Dec. 2014.
- 2) F. Montgomery, S. Chellappan, **R. Kotikalapudi**, D. Wunsch and K. Lutzen. “Monitoring Student Internet Patterns: Big Brother or Promoting Mental Health?,” *Journal of Technology in Human Services*, v.31, 2013. Work resulted in **NSF Career Award**.

CONFERENCE PAPERS

- 1) **R. Kotikalapudi**, S. Chellappan, F. Montgomery, D. Wunsch and K. Lutzen, “Associating Internet Usage with Depressive Behavior Among College Students,” in *IEEE Technology and Society Magazine*, vol. 31, no. 4, pp. 73-80, winter 2012.
- 2) V. A. Hongal, **R. Kotikalapudi**, Y. B. Kim and M. Choi, “A novel “divide and conquer” testing technique for memristor based lookup table,” 2011 IEEE 54th International Midwest Symposium on Circuits and Systems (MWSCAS), Seoul, 2011.
- 3) Wenjuan Zhu, Ming C. Leu, Xiaoqing F. Liu, **Raghavendra Kotikalapudi**, Hui He, Sheela Surisetty, Jerry D. Plunkett, Greg Pierson, and Bradley M. Davis, “Low-Cost, High-Fidelity Virtual Landmine Detection Training System,” *International Conference on Computer Graphics and Virtual Reality*, 2011
- 4) N. Dutta, **R. Kotikalapudi** and M. Bhonsle, “A formal analysis of protocol-independent security threats in VANETs,” *Students’ Technology Symposium (TechSym)*, 2011 IEEE, Kharagpur, 2011, pp. 103-108.
- 5) N. Dutta, **R. Kotikalapudi**, A. Saxena and S. Chellappan, “A Multi-tiered Architecture for Content Retrieval in Mobile Peer-to-Peer Networks,” *2011 IEEE 12th International Conference on Mobile Data Management*, Lulea, 2011, pp. 104-109.