Raghavendra Kotikalapudi

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Awards and Achievements

- 2017 Facebook Seattle ML Hackathon Winner. Geekwire Article.
- Published NYTimes Op-ED on correlations between Internet Usage and Depression.
- Golden Volcano Award - Online Services Division Science Fair, Microsoft
- Best Social App Award - Microsoft Hackathon 2014
- 2012 Microsoft Team Innovation Award

Work Experience

Aug 2018 – Present | Software Engineer, ML, **Google**, Mountain View

Dec 2014 – July 2018 | Software Engineer (ML), **Amazon**, Seattle

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, adult video classification, video scene segmentation, ML evaluation tooling, video attribute classification and understanding using deep learning models.

Sept 2011 – Nov 2014 | Software Engineer, **Microsoft Corporation**, Fargo

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 – Aug 2011 | Research Assistant, *Computational Intelligence Lab*, **Missouri S&T**

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 – Dec 2010 | Research Assistant, *Virtual Reality Lab*, **Missouri S&T**

Advisors: Dr. Frank Liu, Dr. Ming Leu

Led the development of a low cost simulation environment for landmine detection training. I was involved in optimizing I/O from Nintendo Wiimote sensors and improving framerates for rendering. Our research project was featured on US Army Lab Website.

May 2010 – Aug 2010 | Research Intern, **Advanced Military Equipments Inc**, Dixon

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 – May 2010 | Research Assistant, *Cognitive Studies Lab*, **Missouri S&T**, Rolla

Advisors: Dr. Sriram Chellappan, Dr. Jacqueline Bichsel

Report | Identified intervention strategies for reducing math anxiety and improving math performance through various statistical methods.

Technical Skills

Languages	Java, Python, C#, Javascript, C++
Machine Learning	Keras, Tensorflow, pytorch, MXNet, nltk/spacy, numpy, sklearn
AWS	SageMaker, DynamoDB, RDS, SNS/SQS, Lambda, SWF

Notable Open Source Projects - Github

keras-vis

A high-level library for visualizing and understanding neural networks.

keras-text

One stop shop for text classification. Provides a clean interface to create existing SOTA models and provides the right level of abstraction to build and train custom models.

deep-learning-experiments

Code for various research experiments described on my blog.

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/Conference 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**.

3) **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.*

4) 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.

5) 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*

6) 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.*

7) 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.*