## K Venkata Vijay Girish

**MILE Lab, Department of Electrical Engineering,**

**Indian Institute of Science, Bangalore- 560012,**

**Email:** kv@ee.iisc.ernet.in, vijay.girish@gmail.com **Phone:** +91 9480515318

**Web:** https://sites.google.com/site/kvvijaygirish/


## Research Interests

- Machine Listening: Source Separation, Phoneme Classification, Speech Processing
- Pattern Recognition, Machine Learning, Sparse Coding and Compressive sensing
- Signal Processing and its applications, Image Processing

## Education

*Joined in August 2010 as a M.Sc(Engg), Systems and Signal Processing and upgraded to PhD in March 2012*, expected to complete by July 2015
Department of Electrical Engineering, Indian Institute of Science, Bangalore, GPA: 5.8/8.0

– *Research Guide: Prof. A. G. Ramakrishnan, Department of Electrical Engineering*

| Term | Courses Credited at IISc | Credits | Grade |
|---|---|---|---|
| August- December 2010 | Linear and Nonlinear Optimization | 3:0 | A |
| | Matrix Theory | 3:0 | B |
| | Advanced Digital Signal Processing | 3:0 | B |
| | Stochastic Models and Applications | 3:0 | C |
| January- April 2011 | Automatic Speech Recognition Algorithms | 3:0 | B |
| | Speech Information Processing | 3:0 | B |
| | Pattern Recognition and Neural Networks | 3:1 | B |
| | Data Mining | 3:1 | C |

*B.Tech., Electrical and Electronics Engineering*, August 2004- May 2008
National Institute of Technology Karnataka, Surathkal, GPA: 7.75/10.00

## Research Publications

### Conference publications

Published:

- Sayan Ghosh, K V Vijay Girish, T.V. Sreenivas , *Relationship between Indian Languages Using Long Distance Bigram Language Models*, Proc. International Conference on Natural Language Processing (ICON 2011), Dec 16-19, 2011, Chennai, India, pp. 104-113
- Vikram Ramesh Lakkavalli, K V Vijay Girish, A G Ramakrishnan , *Sub-band Envelope Approach to Obtain Instants of Significant Excitation in Speech*, Proc. National Conference on Communications (NCC 2012), Feb 3-5, 2012, Kharagpur, India, pp. 19

### Journal publication

Under review:

- Vikram Ramesh Lakkavalli, K V Vijay Girish, Harshavardhan S., A G Ramakrishnan , *Robust estimation of glottal closure instants using dynamic selection of subband components*, IEEE Transactions on Audio,Speech and Language Processing

## Academic Projects:

**During PhD** *August 2010- current:*

- Relationship Between Indian Languages Using Bigram Language Models- Group project under Prof. T. V. Sreenivas of Dept of Electrical Communication Engineering, Indian Institute of Science
- Voiced and Unvoiced feature classification of Speech data using multiple features- Individual project under Prof. A. G. Ramakrishnan of Dept of Electrical Engineering, Indian Institute of Science
- Implementation of Modification of Pitch contour , Duration and Energy for change in Prosody in Tamil Speech Synthesis under Prof. A. G. Ramakrishnan of Dept of Electrical Engineering, Indian Institute of Science
- Voice Modification system using change of sampling frequency and duration normalization under Prof. A. G. Ramakrishnan of Dept of Electrical Engineering, Indian Institute of Science
- Implementation of Parts of Speech and Pause Rules Tagging of Tamil text in Matlab and C under Prof. A. G. Ramakrishnan of Dept of Electrical Engineering, Indian Institute of Science
- Robust estimation of glottal closure instants using dynamic weighting of subband components in Speech under Prof. A. G. Ramakrishnan of Dept of Electrical Engineering, Indian Institute of Science

**During B.Tech** *August 2004 - May 2008:*

- *Major Project:* Steady State Analysis of Unified Power Flow Controller using Matlab 5.3 and Simulink 3.0- group project under Dr. K.N. Shubhanga of Dept of Electrical and Electronics Engineering, NITK Surathkal
- Digital Quiz- group project under Mr. K. Manjunath Sharma of Dept of Electrical and Electronics Engineering, NITK Surathkal
- Pspice Simulation of high frequency signal only during negative half cycle of the power supply- individual project under Mr. A.R.Beig of Dept of Electrical and Electronics Engineering, NITK Surathkal
- Design and implementation of Badminton Scoreboard (for doubles match) using Xilinx VHDL software- individual project under Prof. P.Vittal of Dept of Electrical and Electronics Engineering, NITK Surathkal
- Graphic Equalizer implementation using Matlab 7.0 - individual project under Prof. Jora M Gonda of Dept of Electrical and Electronics Engineering, NITK Surathkal
- Design of a a simplified bus model of Embedded Intel486 SX Processor using Xilinx VHDL software- group project under Prof. P.Vittal of Dept of Electrical and Electronics Engineering, NITK Surathkal
- 2-Dimensional electromagnetic field simulation for high)performance electromechanical design using Maxwell SV software- group project under Dr.P.Duraikannu of Dept of Electrical and Electronics Engineering, NITK Surathkal
- Speed Control of DC Motor using PC Generated Pulse Width Modulation(Hardware Project)- group project under Mrs. Vinatha U. of Dept of Electrical and Electronics Engineering, NITK Surathkal
- Implementation of Image Processing Techniques using Graphical User Interface in Matlab 7.0.1- group project under Mrs. Vinatha U. of Dept of Electrical and Electronics Engineering, NITK Surathkal

## Technical Experience

- Work experience of 2 years from August- 2008 to July- 2010 which includes 1st year as Graduate Engineer Trainee and 2nd year as a Senior Engineer in Relay and Integrated Solutions, Larsen and Toubro Limited, Mumbai. Profile includes development, Indepth testing, troubleshooting and analysis of new product, Intelligent Motor Protection Relay.

April 9, 2013