Vishal V Khadake

Citizenship : Indian ▪ Date of birth : 30 march 1987

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Address& Contact

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Mr. Vishal V.khadake

Shankar Nagar

Pusad-445204

Maharashtra, India.

Profile

Objective: "To challenge my capabilities and grow in an organization both personally and professionally, I would like to be in an environment where I can work with the best talents and where every assignment would be a challenging and rewarding experience".

Internship project

I pursued my internship under Dr. Samudravijaya scientific officer (F) in School of Technology and Computer Science (STCS) Dept., Tata Institute of Fundamental Research (Tifr), Mumbai.

Duration: *26 June 2012 to 20 June 2013.*

Robust Speech Recognition in noisy environment

The goal of the project is to explore a novel signal processing technique for improving the performance of Automatic Speech Recognition (ASR) system under the noisy environment. I emphasized samples under glottal closure phase of voiced portions of the speech signal, since the spectral properties of the speech sounds are better seen during glottal closure phase. A method based on zero frequency filtering and short time energy (STE) profile estimation of speech signal is used to identify glottal closure phase interval within a pitch period. Using an appropriate weighting function, I gave special preference to the voiced part of the speech sound in glottal closure portion. We found that such a selective signal processing can increase the recognition accuracy of ASR system in noisy environment. For this project, I worked on Marathi (local Indian language) speech data of 15000 speakers collected over 34 districts in Maharashtra (a state in India) having 55000 wave files.

ASR Project : Speech based access for Agricultural commodity in Marathi

The project is sponsored by Dept of Information Technology (DIT), India. The aim of the project is to build ASR (automatic speech recognition) system which is easily accessible by people to get price of about 500

commodities by talking to an automated system. This system is speaker independent and is available in six Indian languages viz., Marathi, Hindi, Assamese, Bengali, Tamil and Telugu. In this project price of commodities are taken and updated from Agmark site. User will call to system and get information needed such as commodity price, market location etc. I assisted to build Marathi language ASR system which was a joint project of IIT Bombay and Tifr, Mumbai. For this project in Phase I we used Marathi isolated words data base of 55000 wave files collected over 34 districts of Maharashtra of 1500 different speakers.

Academic Projects

M-Tech (Term project (2nd semester)) : Number Recognition using DTW (Dynamic Time Warping)

In this project I used DTW to recognize the decimal numbers [0 to 9]. In this project, I used several different utterances for each number. The *.wav files used are 16000 Hz sampled of ten different speakers for each number i.e. 0 to 9 in English. The recognition was among 90 files for each test utterance. The recognition accuracy found was 98%.

BE Project : MICROCONTROLLER BASED ROBO PEON using 89C52 microcontroller

In this project we 5 people were involved to design a robot which will carry voiced notice stored by senior authority for students through each classroom. In this project we used 89c53 microcontroller to control and interface the peripherals viz., **APR9600** voice kit (to store the voice a message/notice of 60 sec or 8 messages of 10 sec), **ULTRA MSOP-08** Motion detector to sense and blow alarm for interloper, photodiode to sense the prerequisite black spot which are placed in front of every classroom and 5v dc motors (4 motors were used with set of two in parallel).

Key Skills

Proficient or familiar with an array of programming languages, concepts and technologies

Languages	Applications	Operating Systems	Area of Interest
C, C++, Perl, Spice, Python.	MATLAB Magic Cadence	Windows Linux	Speech signal processing (Recognition/ Synthesis) Digital Signal Processing (Audio/Video) Pattern recognition/matching. Microcontroller/DSP programming

Education

2011-2013	M-Tech in DEAC (*Digital Electronics and Advance Communication*) CGPA (1st sem) 6.6/10

	(**2ⁿᵈ sem**) 7.3/10
	(**2ⁿᵈ year**) 9/10 (Thesis work)
	Total CGPA 7.85
2010 to 2011	**Prepare for GATE(graduate Aptitude Test Examination) – 2011**
	GATE Score 409/1000.
2009 to 2010	**Employee as a Lecturer in B.N. College of Engineering, Pusad**
2005 to 2009	**Bachelor of Engineering (BE)** *"Electronics and Communication Engineering (E&C)"* **BNCOE, Pusad.** **AGGREGATE :- 68 %**
2004 to 2005	**12ᵗʰ Grade (STATE BOARD)** – P.N. college, Pusad. **Percentage: 64%**
2002 to 2003	**10ᵗʰ Grade (STATE BOARD)** - K.D. High school, Pusad. **Percentage: 73 %**

Electives for Post Graduation

- ✓ ADVANCE DIGITAL SIGNAL PROCESSING.
- ✓ MULTI CORE PROGRAMMING.
- ✓ VLSI TESTING AND TESTABILITY.
- ✓ ADVANCE VLSI FOR SIGNAL PROCESSING.

Paper Presentation

- ✓ Paper on "ARTIFICIAL HEART "in college fest @BNCOE, Pusad
- ✓ Paper on SPEECH RECOGNITION" in college seminars @MIT, Manipal.

Activities and Interests

Leadership and Management

- ✓ NSS (National Service scheme) fellow for three years in BNCOE, Pusad.
- ✓ Organizer of alumina-meet for seniors during graduation for three years.

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Extra-Curricular Activities

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- ✓ **Winner in** Western group dance in Cultural Fest in 2009 BNCOE, Pusad.
- ✓ Have been an organizer of cultural fest 2009 in BNCOE,Pusad

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Languages Known

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- ✓ Marathi, English, Hindi.

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Faculty References

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Dr. Samudravijaya, scientific officer (F) STCS Dept. Tifr, Mumbai, chief@tifr.res.in,022-22782322

Dr. Somshekhar Bhat, Professor E&C Dept. MIT, Manipal, soma.bhat@gmail.com,09964899297

Declaration

I hereby declare that the above-mentioned information is correct up to my knowledge and I bear the responsibility for the correctness of the above-mentioned particulars.

Vishal V Khadake

25 September, 2013.