**Sai Prasad Buddi**
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## OBJECTIVE:

Seeking an internship position involving research opportunities in Signal Processing and Communication.

## EDUCATION:

**Arizona State University, Tempe** — Current GPA – 3.8/4
MSE, Electrical Engineering — August 2006 – Present

**National Institute of Technology, Trichy** — CGPA – 8.3/10
B.Tech. Electronics & Communications Engineering — September 2000 – May 2004

## COURSES: (At Arizona State University)

- Communication Systems, Digital Signal Processing, Random Signal Theory — Fall 2006
- Detections & Estimation Theory, Digital Spectral Analysis, Digital Communication — Spring 2007

## WORK EXPERIENCE:

- Student Worker, University Technology office, Arizona State University, USA — Oct 2006 – Present
- Lecturer, M S Ramaiah Institute of Technology, Bangalore, INDIA — Feb 2006 – Jun 2006
- Management Trainee, Larsen & Toubro Ltd., Marine Defense Unit, Mumbai, INDIA — Jul 2004 – Jun 2005

## PROJECTS:

- **Coherent and Non-coherent Detector performance**: The aim of the project was to compare the performance of coherent and non-coherent (square-law) detectors in AWGN channels using Matlab. (Feb 2007)
- **Sound Morphing using FFT:** The aim of the project was to provide hands-on programming experiences (Matlab) with sound processing functions, signal framing, windowing, FFT processing, analysis and reconstruction, and subjective and objective evaluation of sound morphing. (Nov 2006)
- **Mixed Excitation Linear Predictor:** The aim of the project was to improve the performance of the MELP coder for low bit rate application. I tried a combination of linear prediction with multi-pulse excitation. I used MPE algorithm for the fully voiced speech frames, MELP for the speech frames which were neither voiced nor un-voiced, and noise for the un-voiced case. The result (in terms of the reconstructed voice quality) for this combination was not very encouraging compared to 2.4 kbps MELP coder. (Oct - Dec 2005)
- **Implementation of ITU-T G.729 Standard in C:** The aim of the project was to study and understand the basics of speech processing, the G.729 speech vocoder and implementing it in C. G.729 is an audio data compression algorithm for voice that compresses voice audio in chunks of 10 milliseconds for Toll-Quality speech at 8 kbps using Conjugate Structure Algebraic Code Excited Linear Prediction (CS-ACELP). The C implementation has 2 parts, encoder and decoder. The two multi file program is run using MATLAB as a single package. A few blocks of the encoder are implemented in TI's C54X processor. (Jan-May 2004)

- **Design of an 8-bit processor using VHDL:** The aim of the project was to gain an in-depth knowledge of processor design and VHDL / VLSI tools. This processor tries to emulate the Intel's 8085. The scope of this project is only the functional verification. The salient features are: Stored program concept, uni-tasking and uni-programming, single bus architecture, both memory references as well as register reference instructions; however explicit input / output instructions and interrupts have not been implemented. (Jan-May 2003)
- **Digital modulation technique (BPSK) and implementation of Rad-2 FFT in C:** The aim of the project was to study the generation of Binary Phase Shift Keying (BPSK) signals for binary communication using the 8085- microprocessor. The project also deals with the implementation of the Radix-2 FFT algorithm in C. (May-Jun 2002)

## SOFTWARE SKILLS:

- Language C, C++, Visual Basic, VHDL, Verilog, 8085 & 8086 assembly language, TMS320C5xx, HTML
- Package MATLAB, XILINX, ModelSim, Catia (Dassault Systems)
- OS Windows, DOS, Linux, Unix, Mac

## ACTIVITIES AND HONORS:

- Member of ASU chapter of Engineers Without Borders
- Member of the IEEE and the Communication Society
- Received chief minister’s merit award for securing 9th position in the first year in NIT, Trichy
- Member of Technical Committee for the National Level Technical Symposium, Probe 2003 and 2004 at NIT, Trichy
- Member of the Campus Placement Committee for ECE dept.
- Received an award of honor from the Akhila Bharatiya Vidyarthi Parishad (ABVP) for securing 9$^{th}$ position in the H.S.C. examination in my city.

## PERSONAL:

- **Date of Birth:** October 1, 1982
- **Gender:** Male
- **Citizenship:** India
- **Visa status:** F1

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