CURRICULUM VITAE

Name: Ramanagouda Odugoudar
Address: Olshausenstr. 64A
Zimmer No. 7
24118 Kiel, Germany
Email Id: rrodugoudar@gmail.com
ro@tf.uni-kiel.de
Handy: +4917645162186

EDUCATION

MASTERS:

- **Degree**: Masters of Science
- **University:** University of Kiel, Germany
- **Course Name:** Digital Communications
- **Thesis title:** Ad-hoc Networks Emulation Framework for Underwater Communication Applications
- **Supervisor :** Dr. Ivor Nissen
- **Dates:** 05/2010-10/2010

BACHELORS:

- **Degree**: Bachelors of Engineering
- **University:** Visvesvaraya Technological University ,India
- **Course Name:** Electronics and Communication
- **Project title:** Study and Implementation of RSA algorithm
- **Dates:** 10/2001-12/2005

EXPERIENCE SUMMARY:

- Poster on thesis topic titled "Ad-hoc Networks Emulation Framework for Underwater Communication Applications" accepted for presentation at 5TH International Workshop on Underwater Networks (WUWNet 2010).
- 3 years experience in DSP and Wireless Communications
- Previous Companies worked with LARSEN & TOUBRO INFOTECH LIMITED, MATRIX ENERGY SYSTEMS PVT LIMITED, Clients worked with (NAVINI NETWORKS) CISCO SYSTEMS.
- Development, Optimization, Implementation, Debugging and Testing on DSP platforms for TMS320C55xx, TMS320C54xx and ADSP BF561 processors.
- Algorithm Design and Implementation for high speed broadband networks such as WIMAX sys.
- Design and implementation of Software defined radios.

TECHNICAL KNOWLEDGE

General Tools MS-Office 2000, Clear Case, MKS Integrity

Development Environments	GNURadio, MATLAB, Code Composer Studio
Programming Languages	C/C++, MATLAB, Assembly, python
Processor Architectures	TMS320C55xx, TMS320C54xx, ADSP BF561.
Domain	802.16e WIMAX, DSP based Communication systems
Spoken Languages	English, German (Beginner), Kannada, Hindi

Graduate Assistant at ICT Department, University of Kiel

Project #1:

Duration: 02/2010 – 04/2010

Project: BCJR Algorithm

Maximum a posteriori (MAP) /BCJR algorithm is a decoding procedure applied to block or convolutional codes. BCJR computes soft info about the data symbols in the form of a posteriori probabilities. Soft info is converted to hard decisions by choosing each decision as to maximize its APP. Unlike, viterbi algorithm which produces most likely symbol sequences to minimize probability of sequence error, maximizing APP's as calculated by BCJR algorithm produces sequence of most likely symbols to minimize average symbol-error rate.

Role and Responsibilities

- Implementation of BCJR algorithm for APP decoding of convolutional codes.

Tools Used:

Languages	C, MATLAB
Platform	Linux

Team size: Self

Project #2:

Duration: 05/2009 – 01/2010

Project: Software Defined Radio based on Acoustic Waves

To demonstrate transmission of digital data through sound propagation. This provides unidirectional communication capabilities between two computers relying on air acoustic links.

Role and Responsibilities

- C implementation of Transmitter and Receiver based on Single carrier –On off keying.

- ALSA driver using API's for communication with sound card.
- Bit scrambling/de-scrambling, Repetition coding/decoding, convolution coding/decoding and frame synchronization.

Tools Used:
Languages C, MATLAB
Platform Linux

Team size: Self

Internship at L-3 Communications ELAC Nautik GmbH, Kiel, Germany

Project #3:

Duration: 05/2009 – 06/2009

Project: JANUS protocol

Janus is open standard NATO Undersea Research Centre (NURC)'s underwater communication protocol. It is based on FH-BPSK to provide robust, unidirectional and unsolicited public transmission.

Role and Responsibilities

- Understand existing JANUS protocol in MATLAB and convert to C model.
- C implementation of Transmitter and Receiver based on FH-BPSK modulation.
- C coding of various communication blocks such as interleaver/de-interleaver, convolution encoder, frequency hop sequence generation (Mapping/De-mapping).
- Adaptation of Viterbi (open source code) to decode convolution codes.

Tools Used:
Languages C, MATLAB
IDE Code Blocks

Team size: Self

Employment at Larsen & Toubro InfoTech Limited, Bangalore, India.

Project #4:

Duration: 10/2007 – 09/2008

Project: **Convolution Turbo Code Implementation (Navini WiMAX-LITE CPE and Base Station)**

Navini WiMAX-LITE CPE and BS are based on scalable TDD OFDMA PHY in IEEE 802.16e Wireless MAN standard. CTC (Convolution Turbo Code) is based on 802.16e standards. The development, optimization, testing and debugging from basic level to a fully operational channel coding scheme.

Role and Responsibilities

As a team member I was involved in,
- Implementation and Integration of convolution turbo encoder.
- Assembly coding of CTC Interleaver, Constituent Encoder and Block Interleaver.
- Implement various Modulation schemes, data block schemes.

Tools Used:

Languages	C, Assembly, MATLAB
Target Processor	TI DSP C55x
Others	JTAG Emulator

Team size: 2 people

Project #5:

Duration: 06/2007 – 09/2007

Project: **Antenna Switching for Region Switch for Navini WiMAX-LITE CPE**

Antenna switching method based on calculation of RSSI (Received Signal Strength Indicator) and CINR (Carrier to Interference Noise Ratio) values to be able to select a better antenna amongst Patch 1, Patch 2 and upright Antennas.

Role and Responsibilities

As a team member I was involved in,
- Calibration and storing of antenna metrics for situation for region switch.
- Taking conditions based on antenna switch and region switch and restoring antenna metrics.
- Condition of Region Jump back antenna metrics to be restored.
- Updating on CINR and RSSI values

Tools Used:

Languages	C, Assembly, MATLAB
Target Processor	TI DSP C55x
Others	JTAG Emulator, Spectrum Analyzer.

Team size: 2 people

Employment at Matrix Energy Systems Pvt Limited, Bangalore, India.

Project #6:

Duration: 03/2006 – 05/2007

Project: Power Line Modem with E-meter Platform

Power Line Modem with E-meter Platform demonstrates communication over a power line using Orthogonal Frequency Division Multiplexing (OFDM) technique.

Role and Responsibilities

As a team member I was involved in,
• Optimization of Transmitter and Receiver based on OFDM implementation.
• Assembly coding of communication blocks such as scrambler/de-scrambler, convolution encoder, modulation symbol Mapper/demapper.
• Device driver for off-chip Peripheral UART 16C550 to provide communication with host PC

Tools Used:

Languages	C, Assembly
Target Processor	TI DSP C54x
Others	JTAG Emulator, Spectrum Analyzer, Oscilloscope.

Team size: 2 people

Project #7:

Duration: 12/2005 – 02/2006

Project: Validation of YITRANS'S PITEL & TELKONET Broadband over power line systems

Yitran and Telkonet BPL system provide transmission of high-speed data communications over the existing electrical wiring within a building.

Role and Responsibilities

• Field test of Yitran and Telkonet BPL system to validate features such as through put, coverage and installation ease.

Team size: 4 people

PERSONAL DETAILS

DOB: 24-05-1983
Sex: Male
Nationality: Indian
Marital Status: unmarried

Permanent Address:
Gautan Oni,
Hulkoti
PIN: 582205
Karnataka, INDIA

REFRENCES:

Will be provided on request