

# Mardava Gubbi

SYSTEM ENGINEER, TEAM INDUS

☎ (+91) 978-908-2953 | ✉ mardava.gubbi@gmail.com | 📱 mrdv-rjgpl | 📄 mardava-gubbi-1aa78792

## Education

### Indian Institute of Technology Madras

Chennai, India

B.TECH IN ELECTRICAL ENGINEERING, M.TECH IN COMMUNICATION SYSTEMS

Aug. 2010 - May, 2015

- GPA: 8.46/10.00
- Courses: Advanced Theory of Computation, Machine Learning, Modern Coding Theory, Wireless Communications

## Experience

### Team Indus (Axiom Research Labs Pvt. Ltd.)

Bangalore, India

TEAM LEAD, FLIGHT SOFTWARE

May. 2015 - Present

- Leading a team of seven people developing software for the lunar lander.
- Developed software system to perform an autonomous lunar descent sequence, with on board estimation of lander states, constrained landing site selection, and targeted descent to selected landing site.
- Developed software system capable of on-board state estimation, autonomous attitude correction, man-in-loop orbital maneuvers, and limited Fault Detection, Isolation, and Recovery.
- Developed framework for PILS system emulating electrical interfaces of sensors and actuators to lander avionics unit.
- Developed software system to verify lunar descent strategy using flight grade descent sensors mounted on a hexacopter, flown across representative terrain in pre-defined patterns.
- Developed software system for structural tests of lunar rover engineering model.
- Developed software system to support functional and environmental tests of lander navigation sensors, as well as in-house designed rover mast.
- Developed framework for continuous integration, multi-platform compilation and testing, and easy generation of new unit and integration level tests with existing CUnit and PyUnit libraries.

### Indian Institute of Technology Madras

Chennai, India

TEACHING ASSISTANT

Aug. 2014 - May. 2015

- Intro to Wireless Communications - theory based course dealing with multipath wireless channels, their modelling and analysis.
- Advanced Communication Lab - practical course with Prof. Andrew Thangaraj dealing with PHY layer of Digital Radio Mondiale, and implementing a receiver with RTL-SDR dongles.

### Texas Instruments

Bangalore, India

INTERN, KILBY LABS

May. 2013 - Jul. 2013

- Performed Statistical Timing Analysis of critical paths of ultra low power consumption version of MSP 430.
- Determined deviations in behavior and identified potential problem points in design under new operating conditions.
- Developed framework to simulate timing-critical paths under various operating conditions.

### edZilla Software Technologies Pvt. Ltd.

Bangalore, India

INTERN

May. 2012 - Jul. 2012

- Worked on tablet based education tool deployed across rural public schools in Karnataka, India.
- Developed test evaluation algorithm continuous evaluation of each child, to enable tool to adapt to individual's learning pace.

## Projects

### Short Packet Communication System

Chennai, India

DUAL DEGREE PROJECT, IIT MADRAS

Aug. 2014 - May. 2015

- Worked with Prof. Venkatesh Ramaian to develop short packet communication system with sub microsecond transmission times.
- Implemented both transmitter and receiver on USRP N210 systems, in extensible manner.

## LDPC Decoder Analysis

COURSE PROJECT (MODERN CODING THEORY), IIT MADRAS

Chennai, India

Aug. 2013 - Nov. 2013

- Developed Low Density Parity Check (LDPC) decoders using Tanner Graph built with modified Progressive Edge Growth algorithm.
- Simulated decoders and analysed performance across Binary Erasure Channels, Binary Symmetric Channels, and BPSK over AWGN channels.

## Cell Optimization

COURSE PROJECT (DIGITAL IC DESIGN), IIT MADRAS

Chennai, India

Aug. 2013 - Nov. 2013

- Designed and optimized in 180 nm, a D-flip-flop, a 2-1 multiplexer, and an or-and-invert gate, with the tools Magic and SpiceOpus, using a configuration file from TSMC.

## Extra-Curricular Activities

---

### Saarang 2013

CORE MEMBER, WEB AND MOBILE OPERATIONS

Chennai, India

May. 2012 - Jan. 2013

- Part of 24-member core team responsible for organizing Saarang 2013, the student run cultural festival of IITM.
- Led a team of 17 students developing and deploying services for organizers and participants.

### LitSoc 2012-2013

LITERARY AFFAIRS SECRETARY, TAPTI HOSTEL

Chennai, India

Aug. 2012 - May. 2013

- Organized hostel's activities during LitSoc events, including creative writing, mono-acting, treasure hunts, etc.

### Saarang 2012

COORDINATOR, WEB OPERATIONS

Chennai, India

May. 2011 - Jan. 2012

- Part of 3-member team responsible for developing sales portal for ticket sales to Saarang's professional shows, for 9000-strong population of IITM.

## Scholastic Achievements

---

2010 **All India Rank 19**, All India Engineering Entrance Examination, written by 1.1 million students.

Bangalore, India

2010 **State Rank 21**, CoMED-K, state level engineering entrance exam, written by 50,000 students.

Bangalore, India

2007 **Finalist**, Catch Them Young, course-cum-contest organized by Infosys.

Bangalore, India