

SAI KIRAN ORUGANTI

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EDUCATION

- Dual Masters Micro electronics (under a fellowship programme) Hochschule Darmstadt, Germany
- Bachelor's Of Engineering Ravishankar University Raipur, India.

INTERNSHIP AND PROJECT PROFILE

Master Thesis:

Project - MIROS: Paramagnetic oxygen MEMS Sensor chip at ABB DE CRC and IMTEK Freiburg.

1st March 2007 onwards I have been carrying out my master thesis on a joint venture project between ABB Corporate Research Centre Ladenburg Germany and Institut für Mikrosystemtechnik (IMTEK) Freiburg Germany. Under joint supervision from Dr. Louise Ejsing (ABB DECRC), Dr. Andreas Greiner (IMTEK) and Prof. Dr. Jan Korvink (IMTEK).

My responsibility is to perform laboratory experiments (Lock in Amplifier) and model an FEM model on ANSYS and extract a parametric model. And development of an analytical understanding of the underlying physics of the MIROS prototype.

End date: 1st September 2008

Intern/ Research Intern/Research Student Assistant

Wissenschaftliche Hilfskraft (Hiwi) : IMTEK Simulations Department Freiburg.

Project: Nano-Bond

18th August 2007- 15th February 2008 onwards I have been working as a Hiwi at the Institut für Mikrosystemtechnik at the department of Microsystem engineering at the Simulation lab, under Dr. Andreas Greiner and Diplom. Ing. David Kauzlaric (PHD student), on the topic: Simulation Of Extended Elastic Bodies Immersed in Fluid which is simulated by SPH or DPD methods.

Tools Used: **Moldyn**, developed by **IMTEK simulations lab**.

Internship:

Title: Unmanned Aerial Vehicle.

From MAY 2003 - JULY 2003 at Research Centre IMARAT-Vignyana Kancha -p.o. Hyderabad-500 069, India. (Ministry of Defence)

As a part of my Undergraduate Industrial exposure programme, I was selected for 2.5 months internship at the premier missile development centre (Govt. of India, defence unit) of India. The project assigned to me was development of an Unmanned Aerial Vehicle (UAV). Its during this project I learnt the Mixed technology of a very powerful tool called Systemvision :VHDL-AMS. Not only I was successful at simulation of the UAV model on the VHDL-AMS platform, but also was successful at pointing out advantages of this language-tool over previous models on various other platforms.

Tools Used: Mentor Graphics :VHDL-AMS.

PUBLICATIONS

1. Sai Kiran Oruganti, Thomas Schumann, and S.V.H. Nagendra, Rakesh Aryasomayajula ,Calculation Of Pull-In Voltages In MEMS Devices By Taking Geometry Into Consideration. Ulyanovsk state university Russia. October 2007
2. Sai Kiran Oruganti, Thomas Schumann, and S.V.H. Nagendra, "Electromagnetic-mechanical simulations of geometrical features for developing design limits of MEMS sensors for system on chip (SoC) applications", in Proc. XXXVIII. Workshop of Multi Project Chip Group, cooperating organisation SSCS, IEEE German Section, Ulm, Germany, July 2007

MARCH 2007

3. A Proposal To Calculate Capacitance Based on Structural Discrepancies In MEMS Devices using ANSYS Multiphysics 10.0. At Indian national Conference on MEMS Devices,"MECHEX-2007" - Jabalpur University India. By SaiKiran Oruganti.

Co-authored by: S.V.H.Nagendra , Mayank Batwara.

4. Mechanical and Electrostatic Models of MEMS Devices At Indian national Conference on MEMS Devices,"MECHEX-2007" - Jabalpur University India. By SaiKiran Oruganti.

Co-authored by: S.V.H.Nagendra , Mayank Batwara.

5. Digital cell phones and communication systems At the "National Science and Technology Meet - 2003 " Chennai India.By SaiKiran Oruganti.

EDUCATIONAL PROJECTS

1. Implementation Of LED Dimmer On an FPGA Board.(2007)

As a part of the second phase of Dual-Masters programme I was assigned a team project at Hochschule Darmstadt-Germany. The project was implemented to control the intensity of LED using an FPGA board. The hardware description language being used is VHDL.

Tool used: Xilinx: VHDL Status of the project: Success.

2. Design of ALU of An 8051 Microcontroller Using VHDL.(December 2005-February 2006)

As a part of the first phase of Dual masters programme I was assigned a team project to implement the design of an ALU of an 8051 Microcontroller. The structural modelling feature of this language was used for incorporating the facility to study glitches and timing analysis of the hardware.

Tool used: Xilinx VHDL Status of the project: success

IT SKILL SET:

Languages: C++, JavaScript, HTML, XHTML, Python (scripts).
Operating Systems: Windows 9x/XP, Linux, Unix.
Tools: Ansys 10.0, Modelsim, Xilinx, Moldyn, Mentor Graphics,
Paraview kitware. Mathematica, Matlab.

PERSONAL DETAILS:

Date of Birth : 17th NOV '1981
Sex : Male
Marital Status : Single
Nationality : Indian
Religion: Hindu
Languages Known : English, Hindi , German (first level)

