

Jugantor Chetia

CAD Lab, CEDT Building
Indian Institute Of Science, Bangalore
Karnataka, India - 560012

jugantor@cadl.iisc.ernet.in
<http://www.serc.iisc.ernet.in/cadl/jugantor.php>

Objective

To pursue a career in academic research in the area of design of VLSI circuits.

Education

- **National Institute of Technology**, Durgapur, (W.B.), India
- B.Tech. Electronics and Communication Engineering, NIT Durgapur, 2004-2008
- Secured an aggregate of 8.82/10 (CGPA) in 8 semesters.
- Ranked among the top 5% in the Dept. of Electronics and Communication Engineering
- **Kendriya Vidyalaya**, Namrup, Assam, India
- Class 12 (CBSE) 2003-04. Secured 87.8%.
- Class 10 (CBSE) 2001-02 Secured 86.6%.

Publications

- M.Alle, K.Varadarajan, A.Fell, C.R.Reddy, N.Joseph, S.Das, P.Biswas, *J.Chetia*, A.Satrawala, A.Rao, S.K.Nandy, R.Narayan, "Polymorphic ASIC" accepted in **ACM Transactions in Embedded Computing Systems Special Issue on Configurable Computing**, to be published (<http://www.serc.iisc.ernet.in/cadl/PolymorphicASIC-TECS.pdf>).
- S.Das, P.Biswas, *J.Chetia*, V.Gemini, A.Fell, B.Reddy, K.Varadarajan, M.Alle, R.Narayan, S.K.Nandy, "REDEFINE: A Data Driven Runtime Reconfigurable SoC Platform" submitted for review to student design contest in the 46th Design Automation Conference 2009, San Francisco, USA.

Research Experience

- *May 2008 - June 2008* : Implementation of a custom 1024- point FFT for streaming input data and comparison of its power, area and frequency with a 1024-point FFT implementation on a novel runtime reconfigurable architecture (Polymorphic ASIC), being developed in CAD Lab, IISc, Bangalore
Under: Professor S.K.Nandy, Indian Institute of Science, Bangalore.
- *July 2008 - Dec 2008* : Hardware realization of certain modules of Polymorphic ASIC, development of a simulation environment for the Polymorphic ASIC, taking the Polymorphic ASIC through the digital ASIC design tool flow from Synopsys Design Vision to Cadence SOC Encounter and report its power, area, frequency and layout.
Under: Professor S.K.Nandy, Indian Institute of Science, Bangalore.

Projects

- *Summer Project*: Implementation of various modulation and demodulation techniques employed in communication systems, in Hardware and Software (MATLAB).
Under : Professor P.R.Sahu, Dept. Of ECE, IIT Guwahati.
- *Summer Project*: Developing a technique for estimating the power dissipation of H.264 decoder described in an Electronic System Level Design Language called Bluespec.

- Under:* Professor S.K.Nandy, Indian Institute of Science, Bangalore.
- Fall Project:* Porting certain modules of H.264 modules onto an FPGA board (Spartan 3) as part of a reference implementation.

Under: Professor S.K.Nandy, Indian Institute of Science, Bangalore.
- B.Tech final year project:*

 - Part 1:* Implementation of ACM (Advanced Compact MOSFET) in QUCS Circuit Simulator.

Under: Professor A.K.Mal, Dept. of ECE, NIT Durgapur.
 - Part 2:* Design & Implementation of Different DCT Architectures for Image Compression.

Under: Professor A.K.Mal, Dept. of ECE, NIT Durgapur.
- Semester Project:* Development of z-scanning setup for non-linear optical measurement of materials.

Under: Professor P.Kumbhakar, Dept. of Physics, NIT Durgapur.
- Semester Project:* Image Enhancement (SIMD) Algorithm Implementation on FPGA.

Under: Professor A.K.Mal, Dept. of ECE, NIT Durgapur.

Achievements

- Awarded Merit Scholarship by the North Eastern Council during all 4 years of B.Tech, for securing admission into NIT Durgapur.
- Won 2nd prize in Robowars (Robotics Event) during Aarohan 2k7 and 2k6 - A National Level Technical Festival of NIT Durgapur.
- Successfully stage managed the robotics events during Aarohan 2k7 as a part of my responsibilities as the Technical Coordinator of RoboCell.
- Won 2nd prize in Water Polo and Top-sy Turvy-Mechanical Robotics events at Robotix-Kshitij'06- The techfest of IIT Kharagpur.
- Awarded University scholarship in 1st year and Merit Certificate in all 4 years of B.Tech. (given to top 6 in branch).
- Secured 3rd position in the University in first year B.Tech.
- One of the Founding Members of the Robotics Special Interest Groups (RoboCell) at NIT Durgapur.
- Awarded Merit Certificate in Kendriya Vidyalaya Sangathan Fourth Junior Mathematics Olympiad 2001-02.
- Awarded Merit Certificate in 2nd Chemistry Olympiad 2003, Organized by Society for Chemical Education, Assam.
- Awarded Certificate of Merit for being among the top 0.1% in Science with Practicals in AISSE by CBSE.

Technical Skills

- Operating Systems: Windows, Linux
- Programming Languages: C, 8085/8086 Assembly language, Verilog, Bluespec, SystemC
- Application Software: *Synopsys Tools:* PrimePower, PrimeTime, DesignVision, CosmoScope, Formality, SOC Encounter (*Cadence*), ModelSim, MATLAB, Circuitmaker, Active HDL, Blueview, Xilinx ISE, Digital ASIC design tool flow from RTL to GDSII.

Extra Curricular Activities

- Technical Coordinator of Robocell, The Robotics Club Of NIT Durgapur (2007-08).
- Volunteer for Aarohan 2k6 And 2k5 - national level Techfest of NIT Durgapur.