

Debamitro Chakraborti

PROFESSIONAL EXPERIENCE

Cadence Design Systems Principal Software Engineer August 2010 - Present

- Xcelium
 - ♦ Optimized the runtime performance of the simulator by as much as 10x in various critical customer designs.
 - ♦ Improved the peak memory usage of the compiler by as much as 30%.
 - ♦ Wrote IR-based compiler optimizations including function inlining for the System Verilog language.
 - ♦ Implemented new scheduling semantics in the simulator.
 - ♦ Designed and developed various parts of the runtime library of the simulator.
 - ♦ Refactored legacy code in a 10MLOC codebase.
 - ♦ Started introducing modern C++ in the team and organized technical learning sessions.
 - ♦ Took initiative for improving the build system to make it faster by parallelization.

Nusym Technology India Pvt Ltd R&D Engineer October 2008 - June 2010

- Developed various parts of the interpreted simulator.

Atrenta India Pvt Ltd Senior Software Engineer July 2005 - October 2008

- Worked on the core engine of a static analysis tool.

TECHNICAL SKILLS

- Extensive knowledge of C and C++
- Some experience with Clojure/ClojureScript, Javascript, PHP, Perl
- Technologies : Linux, Git, Coverity, Valgrind, gdb

PUBLICATIONS

- 'PRIVDAM: privacy violation detection and monitoring using data mining' by Jaijit Bhat-tacharya, Rajanish Dass, Vishal Kapoor, Debamitro Chakraborti, S.K. Gupta. (Working paper, IIM Ahmedabad, 2005)

SELECTED PROJECTS

- Implemented a set of new realtime data mining algorithms and benchmarked them on standard datasets. Language: C++ with heavy use of STL. Advisor: Prof Rajanish Dass, IIM Ahmedabad.
- Developed the Linux version of ISIS (Indian Script Input System), downloadable from <http://www.bangla.name/isis>, a program that can enable users to input text using Indic scripts in a phonetic manner under both Windows and Linux operating systems. The typing system was invented by Prof Gautam Sengupta, professor of Linguistics and Language Technology, University of Hyderabad. Language: C/C++. GUI: GTK for gnome, Xlib for X
- Developed a MIDI file generator for programmatically generated music, and presented it at the Engineering and Technological Fair held at Birla Industrial and Technological Museum in February 2001. Language: C.
- Developed the GUI for a gsm network simulation project. Language: C++ with Qt.
- Wrote an evaluation engine for temporal logic formulae, as part of a project on Formal Verification of Security Protocols using Temporal Logic. Language: C++. Advisor: Prof Chandan Majumdar, CSE, Jadavpur University.

EDUCATION AND AWARDS

- Recurse Center, New York City (Mini batch, August 2018)
- B.E. in Computer Science and Engineering (year: 2005) from Jadavpur University, Kolkata (percentage: 75)
- 5th rank in West Bengal Joint Entrance Examination (2001)
- Jagadis Bose National Science Talent Search scholar (batch of 2001)