Edilbert Christhuraj

Contact

Koenig street 21
52064 Aachen
Germany

bert.edil@gmail.com

+49 176 77182454

Edilbert Christhuraj

Languages

Tamil (native)
English (professional)
German (B2)
French (A2)

Awards and Schloarships

- *Silver medalist* for my academic achievement in Bachelor degree in Mechanical Engineering
- Recipient of "Indian Prime Minister Scholarship Scheme (PMSS)" from 2011 to 2015 for my academic excellence.

Projects

`Github profile: edilbert24`

All the reports and source codes for the projects can be found in my Github profile.

Education

- **Master of Science in Simulation Sciences, 10/2016–Present**
  RWTH Aachen University, Germany
  An interdisciplinary master program which on the one hand deals with basic methodological principles (e.g, numerical analysis) and, on the other hand with applications of computer simulations in science and engineering.
- **Bachelor of Engineering in Mechanical Engineering, 08/2011–05/2015**
  Anna University, India
  An introduction to engineering, focuses on mechanical sciences.

Experience

- **Guest Student Program (Internship), 08/2018–10/2018**
  Juelich Supercomputing Center, Germany
  Scientific computing - Higher order Runga-Kutta methods - Template Meta Programming in C++ - Multi–threaded Programming-OpenMP.
- **Student Research Assistant (Hiwi), 05/2017–06/2018**
  Chair of Fluid Mechanics and Institute of Aero-dynamics, RWTH
  I investigated fire characteristics and dynamics of air flow inside tunnels. My activities ranged from carrying out experiments to writing simple programming scripts in C and LabView (Graphical program).
- **Student Research Fellow (Internship), 05/2015–07/2015**
  International Advanced Research Centre for Powder Metallurgy and New Materials, India
  I studied the effect of change in efficiency in energy storage devices e.g., lithium–ion batteries, as a result of temperature change in electrolytes. Succinctly, I carried out thermal analysis of lithium–ion batteries and additionally involved in cathode production.

Skills

●●●●●	C	●●●●○	MPI Library
●●●○○	C++	●●●●○	OpenMP
●●●○○	MATLAB	●○○○○	CUDA
●●○○○	Python	●●●●●	LaTeX

Project works

- **Extrapolated Stabilized Explicit Runge-Kutta methods, October 2018**
  Advisor : Dr. Andreas Kleefeld, JSC, Forschungszentrum Juelich
  The soul aim of the project is to create a C++ templated library for various higher orders of Runge-Kutta methods and to improve the performance of library.
- **Flop count vs. Efficiency, January 2018**
  Advisor : Prof. Paolo Bientinesi, High Performance Automatic Computing, RWTH
  When one constructs an algorithm, one may tend to minimize the number of floating point operations of an algorithm with the intention of minimizing the execution time. The underlying assumption, which unfortunately does not hold in practice, is that all flops cost the same. In this project relation between flop count and efficiency was investigated using an example problem, matrix chain problem
- **Magnetic Domain-Wall Racetrack Memory, May 2017**
  Advisor : Prof. Martin Frank, Mathcces, RWTH
  Magnetic domain walls are formed at the boundaries between magnetic domains magnetized in opposite directions (up or down) along a so-called racetrack. The racetrack is a ferromagnetic nano–wire, with data encoded as a pattern of magnetic domains along a portion of the wire. Using pulses of highly spin- polarized current to move the entire pattern of domain walls coherently along the length of the wire past read and write elements is a possible technology for future computer memory. In this project numerical tools to study the structure of domain walls (e.g. Bloch walls and Neel walls) were developed.