Address: Reichenhainer 35, Zi Nr 556 09126 Chemnitz | Email: ritwikghosh765@gmail.com

Ritwik Ghosh
Date, place of birth: 10th March 1989, Chinsurah, Hoogly

Marital Status: Unmarried

Nationality: Indian

Education

February 2017 - *present*

Masters in Automotive Software Engineering, Fakultät Informatik, TU Chemnitz.

- Echtzeitsysteme
- Software Service Engineering
- Machine Learning
- Parallele Programmierung
- Multicore Programming
- Bildverstehen

August 2006 - July 2010

Bachelor of Engineering (Computer Engineering) from University of Pune, India at P.C.C.O.E college. Result – First Class

September 2004 - June 2006

Higher secondary school at Amrita Vidyalaya, Pune. Result - First Class
From the Maharashtra State Board of Secondary and Higher Education.

Professional Experience

March 2019 - March 2020

Hilfswissenschaftler, Professur Nachrichtentechnik / Fakultät Elektrotechnik und Informationtechnik, TU Chemnitz.

- Software integration of NovAtel GNSS and IMU system called Propak-V3 in a sensor fusion framework developed in the university.
- Software integration of Allied Vision, Basler machine vision camera(s) on the same platform such that real-time data processing is possible. Ran various performance tests to guarantee real time availability of images.
- Undertook test driving of the car for verification of GNSS, IMU, camera(s) inputs.
- Face detection and facial landmark detection using pre-built models from dlib machine learning toolkit and TensorFlow.
- Hacked GoPro Hero 7 and Smart Remote device UDP communication to develop a tool through which multiple GoPro cameras can be controlled through a laptop with WiFi.
- All the code I developed during my work here at the university laboratory is available at https://github.com/NumericalAdvantage.

March 2015 - August 2017

Senior Engineer for product development, Fidelity National Information Services, Pune, India. *https://www.fisglobal.com/*

- Designed, developed and tested custom implementation of specialized data-structures like single producer multiple consumer queues for use in high frequency co-located trading in C++ to improve speed of transactions.
- Development of low latency communication and data processing using shared memory queues.
- Implemented lock-free and wait-free data structures to remove performance bottlenecks. Solved performance issues by multi-core programming.
- Tested the implementation in different load conditions and huge volumes of data and transactions.

June 2014 - March 2015

Engineer, Emerson Innovation Center, Pune, India.
http://www.emerson.com/en-us/automation/roxar

- Developed volumetric and flow rate measurement components for a 3-D oil exploration tool called Roxar mapping sensor data to 3-D models which was then used for modeling oil wells with C++ and Python.
- Integrated back-end classes with the front end of the product's reservoir management system using Qt MVC framework.
- Reduced flow measurement error rate by 15% using simulations written in Octave and exported using Google protocol buffers.

December 2012 - February 2014

Product Development Engineer, Fidelity National Information Services, Pune, India. Formerly "Sungard". *https://www.fisglobal.com/*

- Real time processing of stock market data flows for various stock exchanges in South East Asia and India.
- Design and development of algorithmic smart order routing protocols.
- Development of architecture description using UML.

April 2011 - December 2012

Software Engineer, Persistent Systems, Pune, India. *https://www.persistent.com/*

- Developed software packages for a performance monitoring system for large scale server farms called IBM Tivoli.
- Developed software in C, C++ to gather performance data and then transport the data back to the central monitoring server.
- Simplified data operations in a distributed environment using Open MPI.
- Maximized up-time of the server farms by proactively identifying server loads and points of failures.

Languages known

German - B2 ; English - C1 (IELTS 8.0) ; Hindi, Marathi and Bengali (fully proficient).

Technical competencies

	Intermediate to Proficient	Academic use to Intermediate	
Programming	• C, C++, C++11 • Python	• Core Java	• Cuda API
Frameworks	• STL, Boost • OpenMPI • GUI development with Qt.	• Qt • OpenCV • MySql database C++ API	• OpenMP • TensorFlow • dlib
Tools	• GDB, Valgrind, Cachegrind	• UML	• Package management with conda.
Functions	• System and application software design and development. • Distributed, high performance software development using Linux.	• Machine learning model development. • Image processing / understanding	• Executing machine learning models under real-time constraints. • Optimization Toolbox in Matlab.

Additional Qualifications

August 2010 - February 2011

Post Graduate Diploma in Advanced Computing at C-DAC's Advanced Computing Training School, Pune, India. Result – Grade B.

Hobbies / Interests

Football, hiking (Himalayas, Alps), cycling, motorcycle touring (In India), literature (classics, fantasy, science fiction, politics), value investing, travelling.