Dear HR Manager,

Warm Greetings !!!

I am ***Nishanth***, a recent graduate from the ***Technical University of Munich***. This letter is to express my interest in your job opening for an experienced C / C++ developer position. With a Bachelor's degree in Computer Science and Engineering, Master's degree in Informatics (Computer Science, research based masters program), and an experience of a little over 3 yrs in Telecommunication / Networking domain and 1 yr of Research and Development (C / C++) experience from Germany, I am confident that I will be an asset to your organization.

I enjoy taking on responsibilities to work on challenging projects that require me to work outside my comfort and knowledge set. I am a highly self-motivated individual with an interest for developing innovative software products and thereby contribute to the success of your organization.

Please have a look at my resume with the details of my skills, projects and experiences in software development and research.

Thank you for your time and consideration. I look forward to speaking with you about this opportunity.

P.S: ***Technical University of Munich*** is one of the top universities in World (**No. 1** in Germany) for engineering and technology. It is placed **9th** in the world for Computer Science *https://www.timeshighereducation.com/world-university-rankings/2017/subject-ranking/computer-science#!/page/0/length/25/sort_by/rank/sort_order/asc/cols/stats*

Best Regards,
Nishanth Nagendra
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Bangalore, India

Nishanth Nagendra

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TECHNICAL SKILLS

Programming:	C, C++
Platform:	Unix, Linux
Programming: Tools/Libraries	Pthread, Posix Socket API, other IPC's, Debugging tools (gdb, valgrind, splint), gprof, Basic level usage of C++ STL, OpenMP, MPI, FICO Xpress Optimizer library
Project Mgmt.:	ViM Editor, GNU Build System (Autotools), Git, Version mgmt. and Defect tracking using IBM's Rationale Software, Basic level usage of Visual Studio / Eclipse IDE s

PROFESSIONAL EXPERIENCE

Research Assistant **Jul 2014 – Oct 2016**

Chair for Architecture of Parallel and Distributed Systems, *Munich, Germany*
Technical University of Munich

- **InvasIC – Invasive Computing (*http://invasic.informatik.uni-erlangen.de*)**
    1. Researched various resource managers for possible candidates to develop support for adaptive parallel applications. This led to extension of an open source, highly scalable resource management and job scheduling system called SLURM by plugins.
    2. Developed the support for visualization of runtime scheduling decisions in the Vampir tool with the help of Open Trace Format (OTF) library (open source).
    3. Collaborated with researchers who were developing the invasive version of MPI & *SLURM.*
    4. *Tech Specs: C, SLURM, OTF library, Posix library, MPI, Perl, gdb, valgrind, Autotools, git, Oracle VM Virtual Box, Vampir*

- **AutoTune – Automatic Online Tuning (*http://www.autotune-project.eu*)**
    1. Extended the performance capping plugin by implementing and evaluating a simple linear regression technique to model the performance of an OpenMP application for energy efficiency and using the same for making simple predictions using Brent Algorithm.
    2. Evaluated the compiler flags selection plugin by testing it against various benchmark scientific applications for precision, robustness and performance.
    3. *Tech Specs: C++, Periscope Tuning Framework, OpenMP, gdb, valgrind, git,Autotools*

Senior R&D Engineer **Aug 2011 – Sep 2013**

Mavenir Systems (now Mitel) *Bangalore, India*

- Low level design, and, Implementation of new features in the AirMessenger messaging product.
- Involved in the enhancement of several modules relating to SMPP, billing, LDAP, traffic logging, message receiver/delivery, message store, queuing, retrieval and retrying functionalities.
- Testing, Documentation and Product support for bug fixes after live deployment.
- *Tech Specs: C, MAP, SMPP, DCCA, Wireshark, gdb, Postgres, ClearCase, ClearQuest*

Software Engineer **Mar 2010 – Apr 2011**
Aricent Technologies *Bangalore, India*

- Implemented the support for migration of a VoIP product (Sonus ASX) from IPv4 to IPv6. This involved low level design, and, enhancement of protocol specific modules like SIP, DIAMETER etc. along with unit, functional and system testing using scripts and softphones.
- Underwent training for 2 months on UMTS technology, product based training on RNC, Uplane software. Performed sustenance, feature enhancement and resolved small bugs.
- Simulation of X2AP – an LTE specification [at Aricent Training Facility]. A short team project which involved programming with sockets, threads, Unix IPC facilities like message queues, and, pipes.
- *Tech Specs: C, C++, TCP / IP Socket Programming, SIP, Diameter, Wireshark, gdb, valgrind, gcov, splint, ClearCase, ClearQuest, CVS*

EDUCATION

Master of Science in Informatics **Oct 2013 – Jul 2016**
Technical University of Munich, GPA: 1.3 / 5.0 (1.0 – Best) *Munich, Germany*

Bachelor of Computer Science and Engineering **Aug 2005 – Jul 2009**
Atria Institute of Technology, GPA: 79.50 / 100 *Bangalore, India*
Thesis Topic : Implementation of an Image Editing Software and A JPEG Compression Utility with the help of Matlab

ACADEMIC RESEARCH PROJECTS

Master Thesis: Job Scheduling for Adaptive Applications on Future HPC Systems *(Team Size: 1)* **Nov 2015 – Jul 2016**

Research, development and evaluation of a dynamic and flexible scheduling strategy for adaptive parallel applications. This approach is based on a new negotiation protocol between batch and runtime schedulers and their new algorithms respectively. The framework has been developed in SLURM.

A Protocol for Integration of Invasive Resource Management into Existing Batch Systems *(Team Size: 1)* **Apr 2015 – Oct 2015**

Research and development of a new negotiation protocol similar to the ones used in resource management systems for Cloud. Developed the protocol communication infrastructure, a new plugin in SLURM along with a dummy runtime scheduler to simulate the negotiation protocol.

Implementation of a Metaheuristic for the Discrete Network Design Problem *(Team Size: 1)* **Dec 2014 – Nov 2015**

Researched various metaheuristic approaches to solve traffic network design problems. Implemented a Genetic Algorithm in C along with the Modeling and Solving of the optimization problem using FICO Xpress Optimizer library in C++. Evaluated the algorithm under various settings with small to large scale traffic networks for correctness, performance and effectiveness.

Parallelization of Applications using OpenMP and MPI *(Team Size: 3)* **Apr 2014 – Aug 2014**

Parallelization of the given heat simulation code in C using OpenMP. Parallelization of the minimax and alpha-beta search techniques in the given two player game (C++) called "Abalone" using MPI.

PERSONAL SKILLS

Organizational Skills: Experience working in small / large software development teams both in a flat and vertical hierarchy. Strong experience of the full software development lifecycle.

Language Skills: Proficient - Kannada, English and Hindi. Basic – German, Sanskrit

Hobbies and Interests: Dancing, Cooking, Biking, Playing Violin

REFEREE

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http://wwwi10.lrr.in.tum.de/~gerndt/home/index.html