

Vivek Shah

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- EDUCATION**
- University of Copenhagen** Mar 2013 - Present
Ph.D. student in Computer Science (DMS Lab, DIKU)
Advised by Dr. Marcos Vaz Salles and Dr. Fritz Henglein
- University of Copenhagen** Sep 2010 - Nov 2012
Master of Science in Computer Science
Specialisation: Programming Languages and Systems
Master's Thesis: Adaptive Auto-partitioning in Distributed Transactional Data Stores
- ETH Zurich** Sep 2011 - Feb 2012
Master of Science in Computer Science
Erasmus exchange student
- National Institute of Technology, Hamirpur, India** Aug 2004 - May 2008
Bachelor of Technology in Computer Science
Bachelor's Thesis: A Protocol for Secure and Fast Message Exchange in P2P Networks
CGPI(Overall): 9.33/10
- WORK EXPERIENCE**
- University of Copenhagen (DIKU)** Spring 2011, 2012 and Fall 2013, 2014
Teaching Assistant for multiple graduate and under-graduate courses in databases, systems and algorithms.
- University of Copenhagen (DIKU)** Fall 2013,2014
Lecturer in Advanced Java workshop course (graduate level).
- Belzabar Software Design, New Delhi** Jun 2008 - Jul 2010
Computer Scientist and Deputy Project Lead
- Built RESTful services using J2EE stack for education departments to manage educational workflows across schools over various grades (from kindergarten to high school) over full academic year. The workflow processes consisted of processes like of student applications, enrollments, matching, student and school data management to name a few.
 - Worked on the architecture design and implementation of the matching algorithms and overall maintenance of the application. Handled additional responsibilities of release management and system administration.
 - Handled project management responsibilities as an assistant project lead to guide and review the work of other team members, plan project releases and perform requirement analysis.
- Tata Institute of Fundamental Research, Mumbai** May 2007 - Jul 2007
Research Intern at HBCSE in GNOWSYS team
- Worked on the GNOWSYS engine (<http://gnowledge.org/>) which is a knowledge organization and querying system to migrate the system backends from MySQL to PostgreSQL and perform performance optimizations in the backend engine.

CURRENT PROJECT

Transactional Partitioning in Main-Memory Databases

March 2013 - Present

- Currently in my Ph.D. project together with my advisor, I am investigating the design tradeoffs of OLTP databases in the context of evolving heterogeneous architecture and online applications. We are studying and building novel architectures for main memory transaction processing clouds that allow ease of administration, high resource utilization and a flexible programming model with performance visibility.

PUBLICATION

Transactional Partitioning: A New Abstraction for Main-Memory Databases

Vivek Shah

VLDB 2014 PhD workshop

PAST PROJECTS

Adaptive Auto-partitioning in Distributed Transactional Data Stores

May 2012 - Nov 2012

- During my Master's thesis I built **Memstore**, a distributed, main-memory, key-value based data-store supporting transactions across keys. Memstore provides adaptive auto-partitioning i.e., the data store re-partitions itself over time to reduce the impact of distributed transactions (when it detects too many) in order to guarantee performance to adapt to the transactions being run against the system.

Application of Fourth Futumura Projections in developing compiler generators

Mar 2012 - Jun 2012

- In order to understand the extension of the existing Futumura projections, we (a group of 2) experimented with the fourth Futumura projection and built specializers (partial evaluators) for some experimental DSLs in C. Using CMix, we could generate cross compilers to convert a program in the DSL to C using the specializer we built.

Simple Operating System (SOS)

Sep 2011 - Dec 2011

- As part of the *Advanced Operating System* course at ETH Zurich, I built OS components of a microkernel e.g., virtual memory system, demand paging system, file-system, timer drivers etc. over the L4 microkernel for NSLU2 devices.

GNUNet

Jan 2008 - May 2008

- For my bachelor's thesis, I designed and implemented a chat-room messaging protocol in GNUNet (<https://gnunet.org/>) which is a framework for secure P2P networking that does not use any centralized or other trusted services.

ACHIEVEMENTS AND AWARDS

- Best paper runner up award at VLDB 2014 PhD workshop.
- Danish PhD grant.
- Danish Government Scholarships (full tuition waiver + living expenses) for M.Sc. program.
- Erasmus Scholarship for exchange period at ETH Zurich.
- Second rank in the Department of Computer Science, NIT Hamirpur (B.Tech) at graduation.

EXTRA-CURRICULAR ACTIVITIES

External Reviewer for SIGMOD 2015, IEEE eScience 2014

Fedora Package Maintainer 2008 - 2010

- Responsible for maintaining software packages in the Fedora repositories, fixing bugs and reporting them upstream.

Member, GNU/Linux User Group, NIT Hamirpur 2006-2008

- Responsible for managing the Fedora, GNU and TLDP mirrors hosted by the GLUG server, delivered talks and workshops on various GNU softwares, organized programming contests, install fests, lectures and workshops.

Core Coordinator, Nimbus, Annual Technical Festival, NIT Hamirpur 2007

- Responsible for the overall organization and management of the event and as part of the 5 member core team led the organizing team of 120 student volunteers.

Editor, Srijan, Annual University Magazine, NIT Hamirpur 2006 - 2007

- Responsible for managing a team of 32 editors, reviewing articles and publishing the annual magazine.

Coordinator, Hillfair, Annual Cultural Festival, NIT Hamirpur 2006,2007

- Responsible for leading the English club, a team of 36 members in creating and directing street plays, dramas, participatory events and overall management.

RELEVANT SKILLS

Programming Languages: C, Java, C++, Eiffel, Erlang, Bash, SQL, Matlab/Octave, Python

Systems and Tools: Basic Linux system administration, git, svn, cvs, gcc, autotools, L^AT_EX