

Dishant Ailawadi

CONTACT INFORMATION

Apt#311 Great Oak Apartments,
2900 Swisher Street,
Austin, TX 78705

Cell: +1 512-704-4607
E-mail: dishant@utexas.edu
Web: <http://dedis.cs.yale.edu/~dishant>
Visa Status : F1, Nationality: Indian

EDUCATIONAL HISTORY

The University of Texas at Austin, Austin, TX
M.S., Computer Science (2011-2013)

Indian Institute of Technology, Roorkee, India
B. Tech., Computer Science and Engineering (2007-2011) **9.096/10**

Central Board of Secondary Education
All India Senior School Certificate Examination (2007) **86%**

Central Board of Secondary Education
All India Secondary Certificate Examination (2005) **91%**

HONOURS AND AWARDS

Ranked 5th in the first-year batch of the B. Tech program at IIT Roorkee, 2007-08
Summer Undergraduate Research Award, Indian Institute of Technology Roorkee, 2009
National Talent Search Scholar, NCERT, Govt of India, 2005
Selected for 8th Indo-German Winter Academy, 2009
Scholarship for Outstanding Academic Achievement, IIT Roorkee, 2007, 2008, 2009
Awarded at Lucknow University for securing 6th state rank in Regional Mathematics Olympiad, 2006
Certificate of Merit, Top 1%, National Standard Examination in Chemistry, 2006

PUBLICATIONS

Frame-Based Parallelization of MPEG-4 on Compute Unified Device Architecture (CUDA)
Dishant Ailawadi, Milan Mohapatra, Ankush Mittal
IEEE 2nd International Advance Computing Conference, 2010

Minion-an All-Terrain Packet Packhorse to Jump-Start Stalled Internet Transports
Bryan Ford, Janardhan Iyengar, Syed Obaid Amin, Dishant Ailawadi, Michael F. Nowlan
8th International Workshop on Protocols for Future, Large-Scale & Diverse Network Transports, 2010

RESEARCH AND INTERNSHIP EXPERIENCE

Re-Architecting the transport layer for the TNG (Transport Next-Generation) project
Advisor: Prof. Bryan Ford **Yale University**

Project involved developing modified TCP protocol for encrypted data transmission to ensure faster (and out-of-order) delivery of TLS Record Layer data to higher layers maintaining transparency to the outside network. This was achieved using Consistent Overhead Byte Stuffing (COBS) as well as SSL-MAC verification. Work also involved developing a simulation layer to reorder, duplicate and merge packets in order to test the working of the modified module.

Parallelization of video encoding on scalable multicore architectures

Advisor: Prof. Ankush Mittal **IIT Roorkee**

Project aimed at developing real-time compression for e-learning, video surveillance and tele-medicine videos. We worked on various video compression standards like MPEG-4 and H.264. Architectures used were Nvidia GPGPU and IBM Cell Processor. Developed real time processing capabilities for QCIF-video in MPEG-4 format on Nvidia's Quadro Fx GPGPU.

(Bachelor Thesis) Analyzing the programmability and the efficiency of large scale graph processing on Hadoop

Advisor: Prof. RC Joshi **IIT Roorkee**

Project involved implementation of Map-Reduce style distributed Minimum Spanning Tree Algorithm on HADOOP platform. The whole algorithm is divided into three major steps, Find-Min, Connect-Components and Merger. The implementation was successfully tested for real-world datasets like that of wikipedia involving millions of nodes and edges. We also worked on modifying the algorithm to realize the strength of hadoop platform, optimizations like In-Mapper combining, In-reducer combining were used.

Speech-recognition plugin for an Asterisk-based telephony system

Advisor: Dr. Randolph Wang and Mr. Sumeet Khullar **The Digital StudyHall Foundation**
Worked at Lucknow hub of DSH (<http://dsh.cs.washington.edu>) to help with the development of VoIP based monitoring system using Asterisk and to integrate a simple hindi voice recognition system with it.

TALK AND PRESENTATION

Fundamentals of Parallel Processing

Advisor: Dr. Gerhard Wellein

University of Erlangen-Nuremberg

8th Indo-German Winter Academy, Roorkee, India

Presented a talk on Parallel Processing and on how it is used to solve very large scale problems in computational engineering. This talk focussed on introducing the fundamentals of parallel computers and clusters, and their programming.

ACADEMIC PROJECT EXPERIENCE

Web browser for linux

Course: *Network Programming Lab*

A web browser using HTTP GET protocol for fetching and displaying various pages and files was developed. Files were displayed using Linux GUI. FIFO based Data Cache and DNS Cache were developed with concurrency management capabilities, hence permitting operation of multiple tabs.

Image Classification using linear vector quantization

Course: *Artificial Neural Networks*

Images of vehicles were classified into four classes using linear vector quantization in Matlab. Almost 1000 images were used comprising of different angular variations. All images were captured with a spatial resolution of 128x128 pixels and 18 attributes were generated for each image.

Developing UNIX based shell

Course: *Operating systems*

Developed an UNIX like shell which was efficient with general unix commands. It provided support for pipelining and log maintenance.

Implementing algorithms for computer graphics

Course: *Computer aided graphics*

Various algorithms including bresenham's for Line, Digital differential analyzer, 2D object display were implemented in C++.

COURSES AT UT AUSTIN

Distributed Computing, Graduate Cryptography, Concepts of Information retrieval and Web search.

PROGRAMMING SKILLS

C, C++, Nvidia CUDA, Matlab, Java, SQL, HTML, HADOOP, L^AT_EX 2_ε, Microstation, Lex, Asterisk.

EXTRA CURRICULAR ACTIVITIES

Member, Himalayan Explorers Club

Member, National Cadet Corps

Orange belt, ITOSU-RYU karate do India

REFERENCES

Available on request.