

Nazim Ashraf

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EDUCATION

Phd. Candidate

Computer Science

08/05 to date

University of Central Florida, Orlando, FL

GPA: 3.7

Expected graduation date: 08/10

BSc. (Hons.)

Major: Computer Science; Minor: Mathematics

09/01 – 06/05

Lahore University of Management Sciences (LUMS), Pakistan

CGPA: 3.59 SGPA: 3.84

PROFESSIONAL EXPERIENCE

Research Assistant

08/06 to date

Computational Imaging Lab – <http://cil.cs.ucf.edu>

Research Assistant -

08/05 to 07/06

Vision Lab – <http://cs.ucf.edu/~vision>

Teaching Assistant

Dept. of Computer Science, University of Central Florida, FL

- Computer Architecture

01/09 to date

- Systems Software

01/09 to date

- Computer Organization

01/07 to 12/08

- C Programming

01/06 – 04/06; 08/06 – 12/06

- Database Systems

05/06 – 08/06

Dept. of Computer Science, LUMS, Pakistan

- Automata and Complexity Theory

08/04 – 12/04

RELEVANT COURSE WORK

Graduate level courses: Computer Vision, 3D Computer Vision, Digital Image Processing, Digital Signal Processing, Pattern Recognition, Computer Graphics, 3D User Interfaces, Analysis and Design of Algorithms, Network Optimization, Graph Theory, Computability and Complexity, Operating Systems Design Principles, Advanced Computer Architecture, Neural Networks, and Quantum Computing.

Undergraduate level courses: Computer Vision, Computer Graphics, Signals and Systems, Digital Signal Processing, Computer Networks, Network Security, Data structures and Algorithms, Analysis of Algorithm, Theory of Automata, Operating Systems, Databases, Software Engineering, Object Oriented Design, Programming in C/C++, Advanced Programming Techniques, Programming in Java, and Programming in C#.

Publications:

- Yuping Shen, Nazim Ashraf, and Hassan Foroosh, Action Recognition based on Homography Constraints, International Conference on Pattern Recognition (ICPR), 2008 – Won Best Scientific Paper Award
- Nazim Ashraf and Hassan Foroosh, Robust Auto-Calibration of a PTZ Camera with Non-overlapping FOV, International Conference on Pattern Recognition (ICPR), 2008.
- N. Ashraf, I. Junejo, and H. Foroosh, Near-Optimal Mosaic Selection for Rotating and Zooming Video Cameras, Proc. of Asian Conference on Computer Vision (ACCV), Vol. II, 63-72, 2007.
- I. Junejo, N. Ashraf, Y. Shen, and H. Foroosh, Robust Auto-Calibration Using Fundamental Matrices Induced by Pedestrians, Proceedings of IEEE International Conference on Image Processing (ICIP), Vol. III, 201-204, 2007.

SELECTED PROJECTS

Projects at Computational Imaging Lab, UCF

- Currently working on
 - View invariant action recognition
 - Camera calibration and its applications
 - Estimating camera pose from Fundamental matrix

Projects at Vision Lab, UCF

- Object detection: Used SVM, Kernel PCA, and Boosting for tank detection.
- TREC Video Retrieval Evaluation Forum (TRECVID): The main goal of the TRECVID is to promote progress in content-based retrieval from digital video via open, metrics-based evaluation. A number of low level features such as colors in a 5x5 grid, edges features over the entire image, etc were extracted to build weak classifiers; then these weak classifiers were merged together to build a better classifier

Miscellaneous Projects

- Editing facial expressions in images/videos: Developed an interactive tool for changing facial expressions of people in still images and videos. Basic concepts included face detection, warping, fitting 2D mask, and frame-by-frame point tracking in videos. The interface was designed using Microsoft Foundation Classes (MFC)
- Recognition of hand drawn symbols with Neuro-Evolution techniques: Used NEAT (Neuro-Evolution of Augmenting Topologies), a genetic algorithm for evolving neural networks of unbounded complexity from a minimal starting point, for hand-drawn symbol recognition.
- Application level firewall for the LUMS network: Used Java to build an application level firewall specifically for the LUMS network users.
- Perceptron Branch Predictor: Implemented the predictor in SimpleScalar 3.0.
- Smash Back: Emulated the 3D online game using Visual C++ and OpenGL glut libraries.
- Car Rental System: Used Java and pl/sql with in oracle 9i to build a Car Rental system using concepts from Object Oriented Design
- CricketSoft: Designed and built a software system for Cricket, which performed the same basic functionality of www.cricinfo.com and Samsung cricket ratings
- E-Signup Sheets: Developed an online signup sheet system for the community of teachers, teaching assistants, and students of LUMS
- Feature selection using graph-theoretic methods: Addressed the issue of feature selection in classification by mapping it to the independent set problem in order to analyze its complexity as well as to use the existing algorithms for independent set problem to solve for feature selection.
- Car Rental System:
- Drum Scheduling: Demonstrated that the Drum Scheduling problem can be modeled as the Traveling Salesman problem (TSP) and therefore existing algorithms for TSP can be used to efficiently schedule a drum.

SKILLS

Softwares and Packages: ANSI C/C++, Java, C#, Matlab, and Maple

HONORS AND AWARDS

Placed on the Deans Honor List, during the BSc Hons Program at, LUMS Pakistan

09/01 – 02/05

Received honors for securing straight (3) A's in GCE A Levels, Pakistan

08/01

INTERESTS AND ACTIVITIES

Sports, listening to music, and reading

REFERENCES

Available upon request