

Intelligent Autonomous Systems Group
Fakultät für Informatik
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Dr. Humera Noor Minhas

Objective	To gain optimum experience with proficient people in an organization favoring career growth and escalation preferably as a Researcher/Developer and Academic Counselor (Professor) in the field of Artificial Intelligence, Computer Vision, Robotics, Fuzzy Logic and Artificial Neural Networks. I also aim to impart my knowledge and skills to the young and ambitious upcoming generation.
Employment	
Aug 2010 – till date	Working as a Co-Chairperson at the department of Telecommunications Engineering at N.E.D University of Engineering & Technology , (www.neduet.edu.pk) Karachi, Pakistan.
Dec 2008 – Jul 2010	Worked as a Co-Chairperson at the department of Computer & Information Systems Engineering at N.E.D UET , Karachi, Pakistan.
April 2008 – Till date	Working as an Associate Professor at the department of Electronic Engg. at N.E.D University of Engineering & Technology , (www.neduet.edu.pk) Karachi, Pakistan. Prior to that served at the Computer & Information Systems Engineering dept. at the same university under the same post.
Oct 2004 – Mar 2008	Worked as an Assistant Professor at the department of Computer & Information Systems Engineering at N.E.D University of Engineering & Technology , (www.neduet.edu.pk) Karachi, Pakistan.
Feb 2001 – Oct 2004	Worked as a Lecturer at the dept. of Computer & Information Systems Engineering at N.E.D University of Engineering & Technology , (www.neduet.edu.pk) Karachi, Pakistan.
Education	
Jan 2011 to date	Carrying out Post doctoral research at the Faculty of Informatics at Technische Universität München , Germany. http://ias.in.tum.de/people/minhas
Jul 2004 – Mar 2008	PhD in Computer Systems Engineering at N.E.D University of Engineering & Technology (www.neduet.edu.pk), Pakistan. Partial research was carried out at University of Central Florida (www.eecs.ucf.edu/~vision), Orlando, USA. The thesis titled: "Intelligent View Extrapolation for Dynamic Scenes".
Aug 2001 – Mar 2003	Masters in Computer Engineering at Sir Syed University of Engineering & Technology (www.ssu.edu.pk), Pakistan. CGPA: 3.75 . The thesis titled: "Effect of Data Preprocessing on Artificial Neural Networks for Intelligent Software Design".
Jan 1997 - Apr 2001	Bachelors in Computer Systems Engineering from the N.E.D University of Engineering and Technology (www.neduet.edu.pk) Pakistan. Awarded Merit Certificate for securing 3rd position with 91% marks.
1994 – 1996	Intermediate (Class XI & XII) from St. Joseph's Govt. College for Women, Karachi with 85% . Awarded merit certificate and scholarship by Board of Intermediate Education for securing 10th position .
1993 - 1994	Matriculation (Class IX & X) from White House Grammar School Karachi with 88.4% . Awarded merit certificate and scholarship by Board of Secondary Education for securing 19th position .

Publications/Articles

Effect of Data preprocessing on Machine Learning. Workshop on Women in Machine Learning co-located with Neural Information Processing Systems conference at Vancouver, Canada, December 2010.

Design and Development of model for Multi-view object classification System using Video Stream. Workshop on Women in Machine Learning co-located with Neural Information Processing Systems conference at Vancouver, Canada, December 2010.

Using video for multi-view object categorization in security systems” SPIE Defense, Security and Sensing Symposium at Orlando, Florida, USA, April 5 – 9, 2010.

“Improving efficiency of ANN-based clustering algorithms for large scale dataset” The International Conference of Computational Intelligence and Intelligent Systems, held under World Congress on Engineering, London, UK, July 1 – 3, 2009. <http://www.iaeng.org/WCE2009/>

“Fuzzy Rule Based Traffic Signal Control System for Oversaturated Intersections” The International Conference of Computational Intelligence and Intelligent Systems held under World Congress on Engineering, London, UK, July 1 – 3, 2009. <http://www.iaeng.org/WCE2009/>

“Feature-based alerts correlation for network’s security using self organizing maps” SPIE Defense, Security and Symposium at Orlando, Florida, USA, April 13 – 17, 2009.

“Virtual Image Generation by View Extrapolation of Real Scenes”, published in quarterly Mehran University Research Journal of Engineering & Technology, Pakistan, October 2008. <http://www.muett.edu.pk/research>

“University of Central Florida at TRECVID 2006 High-Level Feature Extraction and Video Search”, published in Proceedings of the 8th ACM International Workshop on Multimedia Information Retrieval, Santa Barbara, California, USA, October 26 - 27, 2006. <http://riemann.ist.psu.edu/mir2006/>

“Model Generation for Video-based Object Recognition” published and presented at ACM Multimedia Conference held at Santa Barbara, CA, USA, October 23 – 27, 2006. <http://www.mmdb.ece.ucsb.edu/acmmm06/>

“Automated Estimation of Future Scenes through View Extrapolation of Past and Present Images” published at International Conference on Computer & Communication Engineering 2006, arranged by International Islamic University and IEEE, Malaysia; May 9 – 11, 2006. <http://www.iiu.edu.my/iccce06/program.php>

“Automated Position Estimation of Target Using View Extrapolation” published & presented at SPIE Defense & Security Symposium at Kissimmee, Florida, USA, April 17 – 21, 2006. <http://www.ioe.ac.cn/info/SPIE/SPIE-Vol6238.HTM>

“Using Past and Present Images to Generate Future Views for Dynamic Scenes” published at the International Conference on Advanced Technology (SPACE) arranged by University Putra Malaysia, December 6 – 8, 2005.

“Effects of Data Preprocessing on Artificial Neural Networks” published and presented in 2nd National Workshop on Trends in Information Technology arranged by International Islamic University, Islamabad, Pakistan, November 2003.

Professional Memberships/Honors

- Member: Institute of Electrical & Electronic Engineers (IEEE)
- Member: Chartered Institute of Logistics and Transport UK.
- Life Member: Pakistan Engineering Council.
- Biography selected by IBC, UK for Publication in "2000 Intellectuals of the 21st Century".
- Listed in 2011 Edition of Marquis "Who's Who in the World" as one of the world's foremost achievers in the field
- Appeared in "Top 100 Educators 2011" by the International Biographical Centre, Cambridge, England.
- Nominated for "2011 Woman of the Year" Distinction and "Great Minds of the 21st century" by American Biographical Institute.
- Nominated by the American Biographical Institute (ABI) for "The Scientific Award of Excellence 2011".

Workshops and Lectures Attended

- Workshop on "How to write a proposal for Framework 7?" at TUM in February 2011.
- Attended and presented at CoTeSys Internal Spring Workshop held on April 28th and 29th, 2011 at TUM.
- Attended KIST-COTESYS Workshop on "Cognition for user-friendly robots in everyday life" held on 25th-26th May at TUM.
- Conducted and Presented at the CoTeSys Graduate School workshop on "Understanding Everyday Human Activities" held on March 2011 at TUM.
- Conference on Multimedia by ACM held from 23rd to 26th October 2006 at Santa Barbara, CA, USA.
- Conference on Computer Vision and Pattern Recognition (CVPR) held from 17th to 22nd June 2006 at New York University, NY, USA.
- "A vision on vision" by Dr. Allen Hanson of University of Massachusetts under 'Distinguished Speaker Series' at University of Central Florida (UCF), Orlando (April 2006).
- "Shaping PRISM: the Center of Perceptual Robotics, Intelligent Sensors and Machines" by Drs. Zhigang Zhu & John Xiao of the City College of the City University of New York, at UCF, Orlando (April 2006).
- SPIE's Defense and Security Symposium held in April 2006 at Kissimmee, USA.
- "Modeling and Reconstruction of Deformable Object Shapes from Video" by Dr. Takeo Kanade of Carnegie Mellon University under 'Distinguished Speaker Series' at UCF, Orlando (November 2005)
- "The Human perception on Machine vision" by Prof. Rama Challappa of University of Mariland under 'Distinguished Speaker Series' at UCF, Orlando (September 2005)
- Audited the course "CAP5415 - Computer Vision" at (UCF) during Fall 2005
- Audited the course "Network Optimization" at UCF during Fall 2005
- Technical Writing for Researchers - NEDUET(June 2005)
- Mathematical Modeling & Simulation of Physical & Biological Systems - NEDUET(Dec 2004)
- Measurement Systems: Design & Analysis - NEDUET(Dec 2004)
- Pakistan Developers Conference - Microsoft (June 2004)
- Short course on Java Language - College of Management and Information Technology (2000)
- Short course on Visual Basic - College of Digital Science, Karachi (2000)
- Short course on Micro Controller 8051 - Usman Institute of Technology – (Hamdard University) (1999)
- Short course on Visual C ++ 6.0 - Information Technology 2000, Karachi (1999).

Job Responsibilities

Co-chairperson

- To serve as a link between the department and the rest of the university.
- Primary responsibility involves handling the Master of Engineering (MEngg) program. This includes preparing and conducting the MEngg entry test, conducting interview, carry out student registration, decide courses to be offered, decide teachers for each course, prepare semester schedule, finalize panel of examiners, serve as factotum during examinations etc.
- Assist the chairperson to exercises all administrative and financial powers entrusted by the statutes, regulations and/or assigned or delegated from time to time. Also, to conduct Board of Studies meetings and carry out all the tasks in absence of chairman.

Teaching Graduate & Undergraduate Courses

- NEDUET:

- Introduction to Artificial Intelligence
- System Design using Microprocessors
- Artificial Intelligence & Robotics
- Computer Communication and Networks
- Software Engineering
- Object Oriented Programming
- Programming Languages
- Introduction to Computers

- TUM:

- Robot Vision (<http://ias.cs.tum.edu/teaching/ws2010/205>)
- Inside-Out Vision for Perception (<http://ias.in.tum.de/teaching/ss2011/215>)

Supervising Undergraduate Engineering projects

- Design and implementation of robotic hand for real-time recognition and replication of human hand gestures.
- Robotic Assembly monitoring using Image processing
- Virtual Fencing
- Activity recognition using posture identification
- Using Mosaicing to generate Panoramic Views
- Using Image Processing for Surveillance
- Analysis of Diverse Data Preprocessing Techniques
- Detection and Reduction of Noise from an Audio Signal using ANNs
- To Develop a Code Generation and Database Conversion Software
- Installation, Operation and Maintenance of VSAT Networks
- Fingerprint Recognition System
- Development of Controllers Area Network (CAN)
- Robotic Sorter using Machine Vision.

In charge – Research & Computation Laboratories

- Monitor and maintain the equipment in laboratory
- Purchase of new equipment and accessories
- Define policies and procedures for managing the utilization of laboratory by students (customers). This includes safety & security of equipment & customers' belongings and providing maximum resources to the users while ensuring discipline etc.
- Handling departmental network ensuring fast, reliable and threat-free network services to the faculty and students.
- Provide a clash-free schedule to the faculty members for practical sessions.
- Provide resources to conduct workshops for students, thereby assuring the availability of multimedia projector, uninterrupted power supply and installation of desired software.
- Provide support for computing systems for carrying out final year projects.

In charge – Software Library (Dept. of CIS Engineering)

- Procurement and maintenance of the software required in the department
- Supervise the inventory (an Oracle database) of the available software

Class Advisor

To act as a link between the students and the university administration. Job responsibilities include handling scholarships, internships, timetable coordination, attendance condonation and any other support required by the students and/or administration.

Development of Curricula for various Graduate and Undergraduate courses

To upgrade the contents of various courses to keep the curricula at par with the current international standards and technology. This includes discarding of obsolete and/or redundant topics and adding new topics depending on the current trends in the field.

Other Administrative tasks assigned from time to time

- Preparation of Practical work books
- Serve as a member in Board of Studies Meeting
- Presentation of departmental overview in open house sessions
- Preparation of annual reports and other documents as desired by internal departments of university and external institutes.

Extra-Departmental Activities

- Organized and presented in workshop on "Understanding Human Everyday Activities", on 7th March 2011 under CoTeSys at TUM.
<http://ias.in.tum.de/events/workshop-understanding-human-everyday-activities-1>
- Served as a technical reviewer for the 22nd International Joint Conference on Artificial Intelligence, held in July 2011 in Spain.
- Served twice as a Judge at the SENTEC Science Fair arranged by NEDUET: May 2008 and September 2007.
- Served as a referee for the International Conference on Machine Vision 2007.
- Served as Jury member for the All Pakistan Science Quiz competition arranged by Pakistan Naval Academy on 6th September 2006.
- Developed and presented the software on "Automatic Target Recognition" at group meeting of Computer Vision Laboratory of Computer Science Department of University of Central Florida (Orlando) in December 2005.
- Served as Session Secretary for Technical Session at IEEEEP Technical symposium organized at NED University of Engineering & Technology on 22nd February 2005.
- Presented a Case-Study on "Using Artificial Neural Networks for Heart Disease Diagnosis", and acted as a coordinator in "Workshop on Artificial Neural Networks" arranged by the Centre for Continuing Engineering Education (CCEE) – NEDUET in June 2003. Got a Certificate of Appreciation for the same.

Skills

Programming & Software Packages' Experience

C, C++, AutoCAD, Visual C++, Visual BASIC, Java, ASP (Active Server Pages), SQL, Rational Rose, EasyNN, OpenCV, LaTeX, MATLAB (NN Toolbox, Image Acquisition & Processing Toolbox), BOSON Network Simulator, Win PROLOG, MS Project, MS Visio etc.

Personal Memorandum

Gender: Female

Date of Birth: October 17, 1979

Marital Status: Married

Languages: English, German

References

References will be furnished on request