



# IMRAN IHSAN IP: 1.12

ASSISTANT PROFESSOR / PROJECT MANAGER / UI, UX DEVELOPER

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Islamabad, 44000, Pakistan

## SUMMARY

- Extensive experience in Project Management and web & mobile application development
- Extensive experience in teaching undergraduate and graduate courses and supervision of students
- Trained scientific writer with excellent presentation and verbal communication skills
- Excellent analytical and problem solving skills with ability to generate novel and innovative ideas
- Solid understanding of programming languages, tools and technologies
- Adaptive, quick to grasp new technologies/tools and eager to accept new challenges
- Self-motivated with ability of working in a cooperative team environment and independently

## ACADEMIC QUALIFICATIONS

2014 to 2018	<b>Ph.D (CS), Semantic Web</b>	Capital University of Science & Technology, Islamabad, Pakistan
2003 to 2005	<b>MS(CS), Multimedia Communications</b>	Mohammad Ali Jinnah University, Islamabad, Pakistan
1998 to 2000	<b>MCS, Computer Science</b>	Hamdard University, Islamabad, Pakistan
1992 to 1994	<b>M.Sc., Physics</b>	University of the Punjab, Lahore, Pakistan

## ACADEMIC CERTIFICATIONS

2018	<b>Game Design &amp; Development</b>	Michigan State University
2015	<b>Full Stack Web Development</b>	The Hong Kong University of Science and Technology
2016	<b>User Interface Design</b>	University of Minnesota
2016	<b>Responsive Web Development</b>	University of London
2015	<b>Data Science Specialization</b>	John Hopkins University

## ACADEMIC AWARDS

- Published 17 papers in highly reputed international conferences & journals
- **Microsoft Imagine Cup 2018** Regional Winner for FYP Project
- **2<sup>ND</sup> Prize** in AirTech 2018 for FYP Project
- Organized **GameJam 2017** Event in Air University, Islamabad
- **1<sup>ST</sup> Prize** in AirTech 2016 for FYP Project
- **Judge:** Software Projects in Air University, Bahria, CUST and Comsats
- Member Organization Committee for **IEEE INMIC 2006** and **ICEIS 2006**
- Delivered Lectures on Multimedia, User Interface Design etc.

## SPECIALIZATION

- Semantic Web Technologies
- Scholarly Big Data
- Machine Learning Algorithms
- Natural Language Processing
- Computational Linguistics
- Data Science
- Internet of Things

## PARTICULARS

- Complete Resume and selected Portfolio: [www.imranihsan.com](http://www.imranihsan.com)
- Member: Center for Distributed and Semantic Computing, Intelligent Media Center

## ACADEMIC POSITIONS HELD

- 08/2013 – TO DATE      **Assistant Professor**  
*Air University, Pakistan*
- Teaching Graduate / Under-Graduate Courses
  - Supervising Under-Graduate Final Year Projects
  - Founding Member / Co-Head – Intelligent Media Center
  - Member Scholarship Committee, Courses Development Committee
- 05/2006 – 04/2008      **Lecturer**  
*Mohammad Ali Jinnah University, Pakistan*
- Teaching Graduate / Under-Graduate Courses
  - Supervising Under-Graduate Final Year Projects
  - Founding Member - Center for Distributed & Semantic Computing
  - Member Arrangement Committee - IEEE INMIC 2006, ICEIS 2006
- 02/2003 – 01/2006      **Lecturer**  
*Hamdard University, Pakistan*
- Teaching Under-Graduate Courses
  - Supervising Under-Graduate Final Year Projects
- 09/1996 – 06/1998      **Lecturer**  
*Petroman, Pakistan*
- Teaching Professional Development Courses
  - Develop New Courses for Professional Development

## PROFESSIONAL POSITIONS HELD

- 02/2010 – 06/2014      **Project Manager**  
*Innovative Research Systems, Pakistan*
- Managing ICT RnD and HEC Funded Projects. Responsible for delivering project milestones against agreed scope, budget, schedule & requirements. Supervising, directing & motivating teams of multi-discipline employees.
- 05/2008 – 01/2010      **Manager / System Architect**  
*ACES Pvt. Ltd., Pakistan*
- Coordinated usability research and teamed in design and development for high profile Intranet and Desktop applications. Challenged with research and design issues involving office automation, usability and clients' expectations.
- 01/2002 – 05/2008      **Senior Front End Engineer**  
*Softtech Services, Pakistan*
- Front End Web Development and Cross Browser Compatibility
  - Back End Web Development: PHP, ASP
- 09/2000 – 01/2002      **Designer and Developer**  
*Remote Silicon, Pakistan*
- Front End and Backend Web Development
- 08/1998 – 08/2000      **Designer and Developer**  
*Attract4U Pvt. Ltd., Pakistan*
- Multimedia Development: Macromedia Flash, Macromedia Director

## SUBJECTS TAUGHT

### Under-Graduate

- Multimedia Systems
- Computer Game Design
- Human Computer Interaction
- Semantic Web
- Full Stack Web Development
- Mobile App Development
- Computer Graphics
- Data Structure and Algorithms
- Analysis of Algorithms
- Multimedia Technologies
- Intro to Programming
- Object Oriented Programming

### Graduate

- Multimedia Systems
- Multimedia Databases
- Semantic Computing
- Ontology Engineering
- Information Visualization
- Web Knowledge Discovery
- Graph Algorithms

## SKILLS ACQUIRED

### 2D Tools

- Adobe Suit
- CorelDraw

### Tech Stack

- HTML 5 / XHTML
- CSS 3, Bootstrap
- PHP / MySQL
- JavaScript, jQuery
- AngularJS
- MS Access
- MS SQL Server
- WordPress

### User Experience

- Microsoft Visio

### Programming

- C++
- R
- Java

### Semantic Web

- XML / XPath / xQuery
- RDF / RDFs / OWL
- SPARQL

## FUNDED PROJECTS

### **Sperminator – Computer Aided Sperm Analysis**

**ICT RnD Funded [17.5 Million]**

*Classification of Human Spermatozoa using state of the art image processing techniques involving object detection and tracking algorithms.*

A commercial application that performs repeatable and accurate analysis of human spermatozoa by automatically finding each sperm and then tracking individual sperm to calculate its displacement accurate to the nearest micrometers using high speed cameras mounted on microscopes. The application is intended for over 250 fertility clinics only in UK, not to mention pathology labs. Dr. Tomlinson Matthews (Head of Andrology Department, Queens Medical Center, Nottingham, UK) collaborated and Dr. Matthews sent medical test equipment to Pakistan for testing and development worth around 8000 GBP already. Automated computer aided sperm analysis system validated properly in clinical trials. The clinical trials were held at University of Nottingham Hospital, University of Liverpool and University of Cambridge.

### **Morphic – Computer Aided Morphological Analysis**

**HEC Funded [6.3 Million]**

*Classification of Human Spermatozoa based on Novel Shape Descriptors*

Developing a sperm morphology test, which would not need cell fixation, and staining, instead the sperm shape and size are automatically assessed on a fresh immobilized sample at multiple focus depths. This system accesses Head, Neck Piece and track the tail for abnormalities. When the technology is ready, validation trials will be undertaken to compare the results with current manual methods and by measurement of specimens which are used in assisted conception procedures e.g., in-vitro fertilization (IVF) and intrauterine insemination (IUI).

## SOME INDUSTRY PROJECTS

<b>WDILL 1.0</b>	A face recognition system
<b>eOFFICE</b>	Intranet and Desktop based Office Automation Application
<b>eDOCUMENT</b>	Intranet based application for Office Automation and Integrated Management
<b>eCAPTURE</b>	Document capture and delivery to multiple repositories from a single interface
<b>eLIBRARY</b>	Library Information System with international standards for e-Learning
<b>HUMAN FOCUS</b>	Customized WooCommerce WordPress eCommerce Plug-in
<b>PROMIS</b>	Police Record Office Management Information System for Interactive Group
<b>PRO PER PICK</b>	An Online Video Based CV Portal
<b>2x2 (TWO x TWO)</b>	A multiplication puzzle game developed for Windows, MAC and Java Platforms
<b>REAL ESTATE PORTAL</b>	A Completed Real Estate portal for Real Estate Agents
<b>7TH BILLION</b>	A Social Network Site with features such as: Customized Hang Spots, Walls etc.
<b>GIGZOO</b>	A live video sharing system

## FYPs SUPERVISED

<b>Unity Machine Learning Agent</b>	Machine Learning / Reinforcement to Game using TensorFlow in Unity3D
<b>Intelligent Drug Finder</b>	Semantic Recover Framework on Bio2RDF Drug Bank
<b>Research Paper Analytics</b>	An Intelligent Research Paper Citation Prediction and Analytics
<b>Ontology Based Authoring Tool</b>	RDF based LaTeX Authoring System
<b>Air University – 360° Experience</b>	Online Virtual Tour for Air University
<b>Health Hub + Wearable</b>	Cloud based Bayesian Network for Heart Attack prediction App
<b>Citation Sentiment Analysis Tool</b>	Sentiment Analysis using Computational Linguistics on Scholarly Big Data
<b>SABAQ</b>	A Noorani Qaida Learning App for Teachers to tracks child's learning curve
<b>Online BiB Editor</b>	Web based plugin to manage bibliographic and citation data
<b>SPoint</b>	A Semantic Based e-Learning Content Development Tool

## RESEARCH PUBLICATIONS

### 2018

- Imran Ihsan, "Survey on Learning Object Repositories using Open Re-Usability Benchmark," in International Journal of Educational Technology, Vol. 114, ISSN: 2229-712X, pp. 49669-49672

### 2017

- Imran Ihsan, Faisal Fayyaz, "Intelligent Classification of Learning Objects using Information Content, Intra Document Terms and Domain Vocabulary," in Journal of Software Engineering & Intelligent Systems, Vol 2(3), 2017, ISSN: 2518 - 8739, pp. 184 - 191
- Imran Ihsan, "Making MOOC Slides Semantically Accessible: A Semantic Content Generation Tool for PowerPoint Slides," in Journal of Distance Education & Research (JDER) , Vol: 2(1), 2017, ISSN 2521-2397, pp. 40 - 41

### 2015

- Imran Ihsan and Muhammad Abdul Qadir, "Querying Semantically Related Items using modified 4-Index Scheme for XML Documents," in 13th IEEE International Conference on Frontiers of Information Technology - FIT, Islamabad, Pakistan, December 14 - 16, 2015, pp. 47 - 52
- Imran Ihsan, Faisal Fayyaz Kiyani, M, Abdul Qadir and Mohib ur Rehman, "Semantic Indexing for XML Documents using RDBMS," in 6th International Conference on Information and Communication Technologies - ICICT, Karachi, Pakistan, December 12 - 13, 2015, pp 1 - 5

### 2010

- Khurram Ejaz, Abdul Mateen and Imran Ihsan, "Vector Shape Classification and Z indexing," in IEEE International Conference on Intelligent Network and Computing - ICINC , Kuala Lumpur, Malaysia, November 26 - 28, 2010, pp. V2-1- V2-5
- Imran Ali Qureshi and Imran Ihsan, "A Survey of Text & Image-based Presentation Tools," in International Conference on Intelligence and Information Technology - ICIIT, Lahore, Pakistan, October 28-30, 2010, pp. 103 - 107

### 2008

- Imran Ihsan, Mohib ur Rehman, Mobin Uddin Ahmed and Muhammad Abdul Qadir, "SPoint - A Semantic Based e-Learning Content Development Tool," in Journal of Applied Sciences, Volume: 8, Issue: 1, pp: 127-133, DOI: 10.3923/jas.2008.127.133, IF: 0.19

### 2007

- Omara Abdul Hamid, Muhammad Abdul Qadir, Nadeem Iftikhar, Mohib ur Rehman, Mobin Uddin Ahmed, Imran Ihsan, "Generic Multimedia Database Architecture Based upon Semantic Libraries," in Informatica - An International Journal of Computing and Informatics, Vol: 18(4). ISSN: 0868 - 4952. pp: 483 - 510. Web of science (ISI). IF: 0.90
- Mohib ur Rehman, Imran Ihsan, Mobin Uddin Ahmed, Nadeem Iftikhar and Muhammad Abdul Qadir , "Generic Multimedia Database Architecture," in International Journal of Electrical, Computer, Energetic, Electronic and Communication Engineering, Vol:1, No:5, 2007 pp 1535 - 1538
- Imran Ihsan, Muhammad Abdul Qadir, and Nadeem Iftikhar, "Mobile Ad-Hoc Service Grid - MASGRID," in International Journal of Electrical, Computer, Energetic, Electronic and Communication Engineering, Vol:1, No:5, 2007 pp 778 - 781

### 2006

- Imran Ihsan, Mohib ur Rehman, Mobin Uddin Ahmed and Muhammad Abdul Qadir, "UREKA Learning Object Taxonomy and Repository Architecture - ULTRA," in 10TH IEEE International Multi-topic Conference - IEEE INMIC, Islamabad, Pakistan, December 23-24, 2006, pp. 231 – 236
- Omara Abdul Hamid, Muhammad Abdul Qadir, Nadeem Iftikhar, Mohib ur Rehman, Mobin Uddin Ahmed, Imran Ihsan, "Generic Multimedia Database Architecture: Towards High-Level Semantic Retrieval," in 6th Information Business Management Association (USA:IBIMA) Conference on Managing Information in Digital Economy: Issues & Solutions - IBIMA, Bonn, Germany, June 19 - 21, 2006. pp. 371 - 378
- Imran Ihsan, Mobin Uddin Ahmed, Mohib ur Rehman, Muhammad Abdul Qadir and Nadeem Iftikhar, "Semantically Meaningful Unit - SMU; An Openly Reusable Learning Object for UREKA Learning-Object Taxonomy & Repository

*Architecture - ULTRA*," in IEEE/ACS International Conference on Computer Systems and Applications - AICCSA, Dubai/Sharjah, UAE, March 8-11, 2006. P: 1011 - 1018

## 2005

- Mobin Uddin Ahmed, Mohib ur Rehman, Imran Ihsan, Muhammad Abdul Qadir and Nadeem Iftikhar ,"*Semantic Integration of Learning Objects for UREKA Navigation and Integration Toolkit - UNIT*," in IEEE International Conference on Emerging Technologies - IEEE ICET, Islamabad, Pakistan, September 17-18, 2005. P: 525 - 529
- Imran Ihsan, Mohib ur Rehman, Mobin Uddin Ahmed, Muhammad Abdul Qadir and Nadeem Iftikhar ,"*UREKA - Grid Enabled Educational Multimedia Database*," in 17th International Conference on Software Engineering and Knowledge Engineering - SEKE, Taipei, Taiwan, Republic of China, July 14-16, 2005. P:485 - 490
- Bilal Saeed Raja, M. Ali Iqbal and Imran Ihsan,"*Moving From Problem Space to Solution Space*," in Proceedings of World Academy of Science, Engineering and Technology, Vol:6, June 2005, ISSN 1307-6884, pp 278 - 281

## TECHNICAL REPORTS AND PC1

- Quarterly Reports for "*Computer Aided Sperm Analysis*", achieving milestones using detailed Flow Charts, Visio based Use Cases and Class Diagrams and Test Results, submitted to the Monitoring Department of ICT RnD Fund. In total of 6 Reports over a period of 19 Months (Project Approved Time Line)
- Developed PC1 for "*Hospital Management System*" and submitted to FC Hospital Quetta and Madina Teaching Hospital, Faisalabad. Report included details of Project Objectives, Design and Technical Parameters, Financial Plan, Human Resource Requirement, Organogram and Implementation Schedule.
- Submitted proposal for HEC Funding for National Research Program for Universities in the capacity of co-principal investigator. The project is title as "*Car Number Plate Registration System*" in field of Computer Vision.
- Developed and submitted number of Project Proposals for medium scale projects for different companies both National and International.

## MS RESEARCH THESIS

### UREKA Learning Object and Taxonomy Architecture – ULTRA

*Mohammad Ali Jinnah University, Islamabad, Pakistan*

ULTRA focused on value amplification of learning resources. After a critical analysis of various LORs on the basis of Open Reusability Benchmark (defined by ULTRA), a need of restructuring the definition and schema of Learning Objects emerged. Learning resources were restructured into object formats, referred to as Semantically Meaningful Units – SMU. Based on this restructuring, a prototype was developed that worked upon increasing flexibility, customization, and ease of update, search-ability, open reusability and manageability to rich stores of content and learning resources created by faculty members or teachers.

## SEMINAR AND WORKSHOPS

2018	<b>Air University, Islamabad</b>	Game Design – Unity 3D (Upcoming in August 2018)
2018	<b>Air University, Islamabad</b>	Responsive Web – Bootstrap 4 (Upcoming in August 2018)
2018	<b>Air University, Islamabad</b>	Semantic Web (Upcoming in August 2018)
2017	<b>Bahria University, Islamabad</b>	Seminar on User Interface Design and Experience
2015	<b>M.A.J.U., Islamabad</b>	Workshop on Semantics and Web Mining Tools
2014 – 2015	<b>ICT RnD Funded Project</b>	CASA Milestone Presentations
2012	<b>Bahria University, Islamabad</b>	Seminar on Graphics and Multimedia



Imran Ihsan [30 May, 2018]