

GENERAL

**Faisal Z. Qureshi**  
Associate Professor, Computer Science  
Faculty of Science  
University of Ontario Institute of Technology  
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RESEARCH  
INTERESTS

Computer vision, camera networks, large-scale-vision-systems;  
Smart cameras, human re-identification, crowd analysis, action recognition, vision  
streams, depth and motion analysis.

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EDUCATION

**Ph.D. Computer Science**, University of Toronto, **2007**.  
Thesis: “Intelligent Perception in Virtual Sensor Networks and Space Robotics”

**M.Sc. Computer Science**, University of Toronto, **2000**.  
Thesis: “Constructing Anatomically Accurate Face Models using Computed Tomog-  
raphy and Cyberware Data”

**M.Sc. Electronics**, Quaid-e-Azam University, **1995**.  
Thesis: “TACS: A Tone Actuated Computer Control System”

**B.Sc. Mathematics & Physics (Minor)**, Punjab University, **1992**.

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HONORS AND  
AWARDS

ACADEMIC ACHIEVEMENTS

**President’s Gold Medal**, Quaid-e-Azam University, Islamabad, Pakistan, 1995.

**First Position**, M.Sc. Electronics, Quaid-e-Azam University, Islamabad, Pakistan,  
1995.

**Distinction**, Post Graduate Diploma, Computer Training Center, Islamabad, Pak-  
istan, 1996.

SCHOLARSHIPS

**Connaught Scholarship**, University of Toronto, 2001 (1 Year).

**Commonwealth Scholarship**, 1997 (4 Years). (Declined for the last two years.)

**Pakistan Government Servants' Benevolent Fund Scholarship**, 1991 (4 Years).

PAPER AWARDS AND CITATIONS

*CRV 2017 Computer Vision Best Paper* for “Fast estimation of large displacement optical flow using dominant motion patterns & sub-volume patchmatch filtering,” selected by the awards committee as the best computer vision paper of the 14th Conference on Computer and Robot Vision (CRV 17), Edmonton, May, 2017.

*ICDSC 2007 Outstanding Paper* for “Virtual Vision and Smart Cameras,” selected by the program committee as one of the best papers of the First ACM/IEEE International Conference on Distributed Smart Cameras, Vienna, Austria, September 2007. A refereed journal-length version was published in the Proceedings of the IEEE, 2008, Special Issue on “Distributed Smart Cameras.”

*VSSN 2005 Outstanding Paper* for article “Surveillance Camera Scheduling: A Virtual Vision Approach,” selected by the program committee as one of the best papers of the Third ACM International Workshop on Video Surveillance and Sensor Networks (VSSN 05), Singapore, November 2005. An extended version was published in the ACM SIGMM journal Multimedia Systems, 2006, Special Issue on “Multimedia Surveillance Systems.”

RESEARCH  
GRANTSINDIVIDUAL

Sep 2017–April 2019, “Development and Testing of Crops Demonstrating Improved Biomass Hydrolysis for Biofuel Production,” \$26,666, Mitacs Elevate.

May 2017–Dec 2017, “Cloud processing for comparative genomics,” 6-month Grant (\$24,970 cash + \$27,000 in-kind), NSERC Engage.

Oct 2015–Mar 2016, “Pedestrian detection and segmentation in videos captured by cameras exhibiting large, uncontrolled motion,” 6-month Grant (\$24,998 cash + \$20,000 in-kind), NSERC Engage.

May 2015–Apr 2016, “Intelligent traffic control through multi-modal vehicle detection and classification,” 1-year Grant (\$25,000 cash + \$18,000 in-kind), OCE VIP.

May 2015–Apr 2020, “Next Generation Smart Camera Networks,” 5-year Grant (\$90,000), NSERC Discovery Grant.

Dec 2014–May 2015, “Camera-based vehicle detection and classification,” 6-month Grant (\$24,978 cash + \$38,100 in-kind), NSERC Engage.

Feb 2011–Feb 2013, “Theory and Applications of Smart Camera Networks,” 3-year (US\$60,000), Xerox Corporation University Affairs Committee.

May 2009–Apr 2014, “Virtual Vision and Smart Camera Networks,” 5-year Grant (\$105,000), NSERC Discovery Grant.

May 2009–Aug 2009, “Simulating Reality for Camera Networks Research,” 4-month Grant (\$7,000), Shared Hierarchical Academic Research Computing Network Undergraduate Student Fellowship Award.

Jul 2008–no end date, (\$60,000) UOIT Startup grant.

#### GROUP

May 2018, “Nick,” 3-year grant (\$1,000,000), with N. Provart (PI) and eight others, Genome Canada Grant.

May 2018, “UOIT Computational Infrastructure for Artificial Intelligence,” Equipment grant (\$50,000), with A. Abari-Salehi (PI) and eight others, UOIT Research Infrastructure Fund.

May 2015, “Extracting Accurate Structural Information from Atomic Scale Imaging using Computer Vision,” 1-year grant (\$15,000), with I. Tamblyn (PI), Molecular Foundry User Grant.

May 2011–May 2013, “Improved Physical Models and Software for Bloodstain Pattern Analysis,” 3-year grant (\$434,766) with F. Gaspari (PI), B. Allen, S. Forbes, and D. Aruliah, Canadian Police Research Centre Grant. (cash and in-kind)

Dec 2008–Aug 2009, “Handling Occlusions in Visual Monitoring Systems,” 6-month Grant (\$37,500) with K. El-Khatib (Co-PI), Ontario Centres of Excellence, Centre of Communications and Information Technologies. (cash and in-kind)

May 2009–Aug 2009, “An Online Testing and Evaluation Environment for Computer Programming Courses,” 4-month Grant (\$7,000) with J.S. Bradbury (Co-PI), Teaching Innovation Fund, UOIT.

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MEMBERSHIPS	Member, The Institute of Electrical and Electronics Engineers (IEEE) ( <a href="http://www.ieee.org">www.ieee.org</a> )
	Member, Association for Computing Machinery (ACM) ( <a href="http://www.acm.org">www.acm.org</a> )
	Member, Canadian Image Processing and Pattern Recognition Society (CIPPRS)

(www.cipprs.org)

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PROFESSIONAL EXPERIENCE	<b>Co-founder and CEO</b>	<b>November, 2016 – present</b>
	Cliply Corp. ( <a href="http://app.cliply.io">http://app.cliply.io</a> )	
	<b>Associate Professor</b>	<b>July, 2013 – present</b>
	University of Ontario Institute of Technology	
	<b>Director, Undergraduate Program</b>	<b>July, 2015 – June, 2017</b>
	Computer Science, Faculty of Science, University of Ontario Institute of Technology	
	<b>Visiting Professor</b>	<b>July, 2014 – June, 2015</b>
	Department of Computer Science, University of Toronto	
	<b>Assistant Professor</b>	<b>July, 2008 – June, 2013</b>
	University of Ontario Institute of Technology	
	<b>Software Developer</b>	<b>April, 2007 – June, 2008</b>
	Autodesk Canada Co., Toronto, Ontario, Canada	
	<b>Graduate Student</b>	<b>August, 1997 – January, 2007</b>
University of Toronto, Toronto, Ontario, Canada		
<b>Contract Engineer</b>	<b>January, 2001 – April, 2002</b>	
MDRobotics, Ltd., Brampton, Ontario, Canada		
<b>Computer Graphics Intern</b>	<b>May, 2000 – August, 2000</b>	
AT&T Research Labs, Red Bank, New Jersey, USA		
<b>Computer Graphics Intern</b>	<b>May, 1999 – August, 1999</b>	
Advanced Telecommunications Research Institute International, Kyoto, Japan		
<b>Software Engineer</b>	<b>March, 1997 – July, 1997</b>	
Truesoft Ltd., Lahore, Pakistan		
<b>Scientific Officer</b>	<b>May, 1996 – March, 1997</b>	
Informatics Complex (Robotics Division), Islamabad, Punjab, Pakistan		
<b>Computer Trainee Officer</b>	<b>May, 1995 – May, 1996</b>	
Computer Training Centre, Islamabad, Punjab, Pakistan		

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TEACHING  
EXPERIENCE

University of Ontario Institute of Technology, Oshawa, Ontario, Canada

*Courses Taught*

July, 2008 – present

- Advanced Topics in High-Performance Computing (machine learning)
- Programming Workshop 2
- Computer Vision
- Principle of Computer Science
- Computer Vision and Games
- Collaborative Design and Research
- Advanced Computer Graphics
- Advanced Topics in Digital Media
- Topics in Digital Media
- Computer Architecture 2
- Ethics, Law, and Social Impact of Computers 2010, 2009.
- Analysis and Design of Algorithms
- Simulation and Modeling
- Computer Architecture 1

*Guest Lectures*

July, 2008 – present

- Introduction to Computer Science
- Science in Context
- Survey of Computer Science

University of Toronto, Toronto, Ontario, Canada

*Courses Taught*

September, 2004 – August, 2007

- Computer Graphics
- Introduction to Visual Computing

*Guest Lectures*

January, 2004 – April, 2004

- Computer Graphics
- Introduction to Scientific, Symbolic & Graphical Computation

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 REFEREED  
 JOURNAL  
 PUBLICATIONS

- [J7] “Automatic Parsing of Lane and Road Boundaries in Challenging Traffic Scenes,” **M. Helala**, F.Z. Qureshi, K.Q. Pu, *SPIE Journal of Electronics Imaging*, **24**(5), October, 2015, 15pp.
- [J6] “Stereo Reconstruction of Droplet Flight Trajectories,” **L.A. Zarrabita**, F.Z. Qureshi, D.A. Aruliah, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, **27**(4), April, 2015, 847–861.
- [J5] “Integrating Consumer Smart Cameras into Camera Networks: Opportunities and Obstacles,” Andrea Prati, F.Z. Qureshi, *Computer*, April, 2014, 26–32.
- [J4] “Software Laboratory for Camera Networks Research,” **W. Starzyk**, F.Z. Qureshi, *IEEE Journal on Emerging and Selected Topics in Circuits and Systems*, **3**(2), June, 2013, 272–284, (Special issue on “Computational and Smart Cameras”).

- [J3] “Smart Camera Networks in Virtual Reality,” F.Z. Qureshi, D. Terzopoulos, *Proceedings of the IEEE*, **96**(10), October, 2008, 1640–1656, (Special Issue on “Smart Cameras”).
- [J2] “Intelligent Perception and Control for Space Robotics: Autonomous Satellite Rendezvous and Docking,” F.Z. Qureshi, D. Terzopoulos, *Journal of Machine Vision Applications*, **19**(3), February, 2008, 141–161.
- [J1] “Surveillance Camera Scheduling: A Virtual Vision Approach,” F.Z. Qureshi, D. Terzopoulos, *ACM Multimedia Systems Journal*, **12**(3), December, 2006, 269–283 (Special Issue on “Multimedia Surveillance Systems”).

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REFEREED  
CONFERENCE &  
WORKSHOPS  
PUBLICATIONS

- [C38] “Neural Networks Trained to Solve Differential Equations Learn General Representations,” M. Magill, F.Z. Qureshi, H.W. de Haan, *Proc. The Thirty-second Annual Conference on Neural Information Processing Systems (NIPS 18)*, Montreal, Dec, 2018, 8pp. (accepted to appear)
- [C37] “Real-time Video Summarization on Commodity Hardware“, **W. Taylor**, F.Z. Qureshi, *Proc. 12th ACM International Conference on Distributed Smart Cameras (ICDSC 18)*, Eindhoven, September, 2018, 8pp.
- [C36] “Fast estimation of large displacement optical flow using dominant motion patterns & sub-volume patchmatch filtering,” **M.A. Helala**, F.Z. Qureshi, *Proc. 14th Conference on Computer and Robot Vision (CRV 17)*, Edmonton, May, 2017, 8pp.
- [C35] “An index structure for fast range search in hamming space,” **E.M. Reina**, K.Q. Pu, F.Z. Qureshi, *Proc. 14th Conference on Computer and Robot Vision (CRV 17)*, Edmonton, May, 2017, 8pp.
- [C34] “A formal Algebra implementation for distributed image and video stream processing,” **M.A. Helala**, K.Q. Pu, F.Z. Qureshi, *Proc. 10th International Conference on Distributed Smart Cameras (ICDSC 16)*, Paris, September, 2016, 8pp.
- [C33] “Constructing Image Mosaics Using Focus Based Depth Analysis,” **M.A. Helala**, F.Z. Qureshi, *Proc. IEEE Winter Applications of Computer Vision Conference (WACV 16)*, Lake Placid, March, 2016, 7pp.
- [C32] “Automatic Video Editing for Sensor-Rich Videos,” **W. Taylor**, F.Z. Qureshi, *Proc. IEEE Winter Applications of Computer Vision Conference (WACV 16)*, Lake Placid, March, 2016, 9pp.
- [C31] “Towards Efficient Feedback Control in Streaming Computer Vision Pipelines,” **M. Helala**, K.Q. Pu, F.Z. Qureshi, *Proc. Workshop on User-Centered Computer Vision (co-located with ACCV 14)*, Singapore, November, 2014, 16pp.
- [C30] “Accelerating Cost Volume Filtering using Salient Subvolumes and Robust Occlusion Handling,” **M. Helala**, F.Z. Qureshi, *Proc. 12th Asian Conference on Computer Vision (ACCV 14)*, Singapore, November, 2014, 16pp.

- [C29] “A Negotiation Protocol with Conditional Offers for Camera Handoffs,” **W. Starzyk**, F.Z. Qureshi, *Proc. Eighth ACM/IEEE Conference on Distributed Smart Cameras (ICDSC 14)*, Venice, Italy, November, 2014, 1–8.
- [C28] “A Stream Algebra for Computer Vision Pipelines,” **M. Helala**, K.Q. Pu, F.Z. Qureshi, *Proc. Second Workshop on Web-scale Vision (Co-located with CVPR 2014)*, Columbus, OH, June, 2014, 1–8.
- [C27] “Topic Models for Image Localization,” **Z. Wang**, F.Z. Qureshi, *Proc. Tenth Conference on Computer and Robot Vision (CRV 13)*, Regina, Canada, May, 2013, 1–8.
- [C26] “I Remember Seeing This Video: Image Driven Search in Video Collections,” **Z. Wang**, F.Z. Qureshi, *Proc. Tenth Conference on Computer and Robot Vision (CRV 13)*, Regina, Canada, May, 2013, 1–6.
- [C25] “Droplet Tracking from Unsynchronized Cameras,” **L.A. Zarrabeitia**, F.Z. Qureshi, D.A. Aruliah, *Proc. 2nd International Conference on Pattern Recognition Applications and Methods (ICPRAM 13)*, Barcelona, Spain, February, 2013, 1–8.
- [C24] “Mosaic of Near Ground UAV Videos Under Parallax Effects,” **M.A. Helala**, **L.A. Zarrabeitia**, F.Z. Qureshi, *Proc. 6th International Conference on Distributed Smart Cameras (ICDSC 12)*, Hong Kong, October, USA, 2012, 1–6.
- [C23] “Road Boundary Detection in Challenging Scenarios,” **M.A. Helala**, K.Q. Pu, F.Z. Qureshi, *Proc. Ninth IEEE Conference on Advanced Video and Signal-Based Surveillance (AVSS 12)*, Beijing, Canada, September, 2012, 1–6.
- [C22] “A Virtual Vision Simulator for Camera Networks Research,” **W. Starzyk**, **A. Domurad**, F.Z. Qureshi, *Proc. Ninth Conference on Computer and Robot Vision (CRV 12)*, Toronto, Canada, May, 2012, 1–8.
- [C21] “Extraction of Blood Droplet Flight Trajectories from Videos for Forensic Analysis,” **L.A. Zarrabeitia**, D.A. Aruliah, F.Z. Qureshi, *Proc. 1st International Conference on Pattern Recognition Applications and Methods (ICPRAM 12)*, Algarve, Portugal, February, 2012, 1–12.
- [C20] “Learning Proactive Control Strategies for PTZ Cameras,” F.Z. Qureshi, **W. Starzyk**, *Proc. 5th ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 11)*, Ghent, Belgium, August, 2011, 1–6.
- [C19] “Multitasking Smart Cameras for Intelligent Video Surveillance Systems,” **W. Starzyk**, F.Z. Qureshi, *Proc. 8th IEEE International Conference on Advanced Video and Signal-Based Surveillance (AVSS 11)*, Klagenfurt, Austria, August, 2011, 1–6.
- [C18] “Negotiating Privacy Preferences in Video Surveillance Systems,” **Mukhtaj S. Barhm**, Nidal Qwasmī, F.Z. Qureshi, Khalil El-Khatib, *Proc. 24th International Conference on Industrial, Engineering and Other Applications of Applied Intelligent Systems (IEA-AIE 2011)*, Syracuse, NY, USA, June, 2011, 2:511–521.
- [C17] “Collaborative Sensing via Local Negotiations in Ad Hoc Networks of Smart Cameras,” F.Z. Qureshi, *Proc. 4th ACM/IEEE International Conference on*

- Distributed Smart Cameras (ICDSC 10)*, Atlanta, GA, USA, September, 2010, 1–8.
- [C16] “Object-Video Streams for Preserving Privacy in Video Surveillance,” F.Z. Qureshi, *Proc. 6th IEEE International Conference on Advanced Video and Signal Based Surveillance (AVSS 09)*, Genova, Italy, September, 2009, 1–6.
- [C15] “Planning Ahead for PTZ Camera Assignment and Control,” F.Z. Qureshi, D. Terzopoulos, *Proc. Third ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 09)*, Como, Italy, August, 2009, 1–8.
- [C14] “Multi-Camera Control Through Constraint Satisfaction for Persistent Surveillance,” F.Z. Qureshi, D. Terzopoulos, *Proc. 5th IEEE International Conference on Advanced Video and Signal Based Surveillance (AVSS 08)*, Santa Fe, NM, USA, September, 2008, 1–8.
- [C13] “A Simulation Framework for Camera Sensor Networks Research,” F.Z. Qureshi, D. Terzopoulos, *Proc. 11th Communications and Networking Simulation Symposium (CNS 2008)*, Ottawa, Canada, April, 2008, 41–48.
- [C12] “Virtual Vision: Visual Sensor Networks in Virtual Reality,” F.Z. Qureshi, D. Terzopoulos, *Proc. ACM Symposium on Virtual Reality Software and Technology (VRST 2007)*, Newport Beach, CA, November, 2007, 247–248.
- [C11] “Smart Camera Networks in Virtual Reality,” F.Z. Qureshi, D. Terzopoulos, *Proc. First ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 07)*, Vienna, Austria, September, 2007, 1–8.
- [C10] “Distributed Coalition Formation in Visual Sensor Networks: A Virtual Vision Approach,” F.Z. Qureshi, D. Terzopoulos, *Proc. Third IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS 07)*, Santa Fe, NM, June, 2007, 1–21.
- [C9] “Surveillance in Virtual Reality: System Design and Multicamera Control,” F.Z. Qureshi, D. Terzopoulos, *Proc. IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR 07)*, Minneapolis, MN, June, 2007, 1–8.
- [C8] “Virtual Vision and Smart Cameras Networks,” F.Z. Qureshi, D. Terzopoulos, *Working Notes of the International Workshop on Distributed Smart Cameras (DSC 2006)*, Boulder, CO, USA, October, 2006, 62–66. (Held in conjunction with the *4th ACM Conference on Embedded Networked Sensor Systems (SenSys 2006)*.)
- [C7] “Surveillance Camera Scheduling: A Virtual Vision Approach,” F.Z. Qureshi, D. Terzopoulos, *Proc. Third ACM Workshop on Video Surveillance and Sensor Networks (VSSN 05)*, Singapore, November, 2005, 131–139.  
*Selected as a best paper and invited for submission to a special issue of the ACM Multimedia Systems Journal.*
- [C6] “Towards Intelligent Camera Networks: A Virtual Vision Approach,” F.Z. Qureshi, D. Terzopoulos, *Proc. Second Joint IEEE International Workshop on Visual Surveillance and Performance Evaluation of Tracking and Surveillance (VS-PETS 05)*, Beijing, China, October, 2005, 177–184.



- [C5] “A Computer Vision System for Space-borne Safety Monitoring,” F.Z. Qureshi, D. Macrini, D. Chung, J. Maclean, S. Dickinson, P. Jasiobedzki, *Proc. Eighth International Symposium on Artificial Intelligence, Robotics and Automation in Space (i-SAIRAS 2005)*, Munich, Germany, September, 2005, 1–8 (Electronic Format).
- [C4] “Cognitive Vision for Autonomous Satellite Rendezvous and Docking,” F.Z. Qureshi, D. Terzopoulos, P. Jasiobedzki, *Proc. Ninth IAPR Conf. on Machine Vision Applications (MVA 2005)*, Tsukuba Science City, Japan, May, 2005, 314–319.
- [C3] “A Cognitive Vision System for Space Robotics,” F.Z. Qureshi, D. Terzopoulos, P. Jasiobedzki, *Proc. ECCV 2004 Workshop on Applications of Computer Vision*, Prague, Czech Republic, May, 2004, 120–128.
- [C2] “The Cognitive Controller: A Hybrid, Deliberative/Reactive Control Architecture for Autonomous Robots,” F.Z. Qureshi, D. Terzopoulos, R. Gillette, *Proc. 17th International Conference on Industrial & Engineering Applications of Artificial Intelligence & Expert Systems (IEA/AIE 2004)*, Ottawa, Canada, May, 2004, 1102–1111.
- [C1] “Development of an Off-line Programming (OLP) System for a Serial Link Robot Manipulator,” F.Z. Qureshi, M. Asif, M. Ahmed, A. Rauf, *Proc. IEEE (Pakistan Section)*, Islamabad, Pakistan, 1997, 1–4.

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**BOOK CHAPTERS**

- [B4] “Virtual Vision for Camera Networks Research,” F.Z. Qureshi, D. Terzopoulos, in *Academic Press Library in Signal Processing: Image, Video Processing and Analysis, Hardware, Audio, Acoustics and Speech Processing*, Vol. 4, R. Chellapa, S. Theodoridis (eds.). Elsevier, January, 2014, Ch. 21, 609–625.
  - [B3] “Object Video Streams: A Framework for Preserving Privacy in Video Surveillance,” F.Z. Qureshi, in *Intelligent Multimedia Surveillance: Current Trends and Research*, P. Atrey, M. Kankanhalli, A. Cavallaro (eds.). Springer, New York, 2013, Ch. 4, 67–82.
  - [B2] “Proactive PTZ Camera Control: A Cognitive Camera Network that Plans Ahead,” F.Z. Qureshi, D. Terzopoulos, in *Distributed Video Sensor Networks*, B. Bhanu, C.V. Ravishankar, A.K. Roy-Chowdhury, H. Aghajan, D. Terzopoulos (eds.). Springer, New York, 2011, Ch. 19, 273–287.
  - [B1] “Virtual Vision: Virtual Reality Subservicing Computer Vision Research for Camera Sensor Networks,” D. Terzopoulos, F.Z. Qureshi, in *Distributed Video Sensor Networks*, B. Bhanu, C.V. Ravishankar, A.K. Roy-Chowdhury, H. Aghajan, D. Terzopoulos (eds.). Springer, New York, 2011, Ch. 11, 163–177.
-

SHORT PAPERS  
AND ABSTRACTS

- [S6] “Guest Editorial,” B. Bhanu, B. Lovell, A. Prati, F.Z. Qureshi, *Special issue on Distributed Smart Sensing for Mobile Vision—IEEE Sensors Journal*, May, 2015, 2631.
- [S5] “Editorial Introduction,” B. Bhanu, A. Prati, F.Z. Qureshi, *Special issue on Image Understanding for Real-World Distributed Video Networks—Computer Vision and Image Understanding Journal*, April, 2015, 46–47.
- [S4] “Guest Editorial,” E.Y. Lam, H. Aghajan, A. Prati, F.Z. Qureshi, V. Tam, *IEEE Journal on Emerging and Selected Topics in Circuits and Systems*, **3**(2), June, 2013, 1–2.
- [S3] “Demo: A Distributed Virtual Vision Simulator,” **W. Starzyk, A. Domurad**, F.Z. Qureshi, *5th ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 11)*, Ghent, Belgium, August, 2011, 1–2.
- [S2] “Activity Aware Video Collection to Minimize Resource Usage in Smart Camera Nodes (Extended Abstract),” F.Z. Qureshi, *Workshop on Resource Aware Sensor and Surveillance Networks (RAWSNET 11)*, Klagenfurt, Austria, August, 2011, 1–2.
- [S1] “On the Role of Negotiations in *Ad Hoc* Networks of Smart Cameras,” F.Z. Qureshi, *IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS 10)*, Santa Barbara, CA, USA, June, 2010, 1–2.

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TUTORIALS

- [1] “Virtual Vision,” F.Z. Qureshi, *6th ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC)*, Hong Kong, October, 2012.

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DISSERTATIONS

- [3] “Intelligent Perception in Virtual Sensor Networks and Space Robotics,” Ph.D. Thesis, Department of Computer Science, University of Toronto, Toronto, Canada, January, 2007.
- [2] “Constructing Anatomically Accurate Face Models using Computed Tomography and Cyberware Data,” M.Sc. Thesis, Department of Computer Science, University of Toronto, Toronto, Canada, January, 2000.
- [1] “TACS: A Tone Actuated Computer Control System,” M.Sc. Thesis, Department of Electronics, Quaid-e-Azam University, Islamabad, Pakistan, January, 1995.
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CREATIVE  
WORKS:  
COVER  
ILLUSTRATIONS

- [1] “Pedestrian Segmentation and Tracking,” color image on the cover of the proceedings of the *Second Joint IEEE International Workshop on Visual Surveillance and Performance Evaluation of Tracking and Surveillance (VS-PETS 05)*, R. Chellappa, J. Ferryman, T. Tan (eds.), IEEE Computer Society Press, Beijing, China, October, 2005.

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INVITED TALKS

- [T26] “A Stream Algebra for Computer Vision Systems,” Department of Computing Science, University of Alberta, Edmonton, June, 2018.
- [T25] “Disruptive Technologies,” Ajax-Pickering Board of Trade, November, 2016.
- [T24] “3D stereo tracking and trajectory reconstruction of multiple particles using locally approximated motion models,” Alpen-Adria-Universität Klagenfurt, Institute of Networked and Embedded Systems, Pervasive Computing, Klagenfurt, Austria, January, 2016.
- [T23] “Accelerated Cost-Volume Filtering for Depth Estimation,” Dept. of Computer Science, Lahore University of Management Sciences, Lahore, March, 2015.
- [T22] “An Algebra for Vision Streams,” National Institute of Vacuum Technology, National Center for Physics, Islamabad, March, 2015.
- [T21] “Virtual Vision: Smart Camera Networks in Virtual Reality,” Dept. of Computer Science, COMSAT Institute of Information Technology, Islamabad, March, 2015.
- [T20] “Virtual Vision: Smart Camera Networks in Virtual Reality,” Dept. of Computer Science, Quaid-e-Azam University, Islamabad, March, 2015.
- [T19] “3D Stereo Tracking and Trajectory Reconstruction of Multiple Particles using Locally Approximated Motion Models,” University of Windsor, Windsor, ON, July, 2014.
- [T18] “Privacy Protective Video Surveillance Systems,” Privacy by Design User Forum, Toronto, December, 2013.
- [T17] “Virtual Vision: A Tutorial,” 6th ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 12), Hong Kong, October, 2012.
- [T16] “Virtual Vision: Smart Cameras in Virtual Reality,” University of British Columbia, Vancouver, BC, April, 2012.
- [T15] “Virtual Vision: Smart Cameras in Virtual Reality,” Xerox Research Centre, Webster, NY, June, 2011.
- [T14] “Proactive Camera Control for Collaborative Sensing,” Distributed Video Sensor Networks (An Interdisciplinary workshop sponsored by NSF, ARO and ONR), University of California at Riverside, May, 2009.
- [T13] “Virtual Vision for Smart Camera Sensor Network Research,” Mitacs Seminar Series, McGill University, Montreal, Canada, February, 2009.
- [T12] “3D Virtual Environments for Camera Network Research,” Virtual Researcher on Call Program between the University of Ontario Institute of Technology and the Peel Region District School Board, Oshawa, Canada, November, 2008.

- [T11] “Intelligent Perception in Virtual Sensor Networks and Space Robotics,” Faculty of Science Colloquium, UOIT, Oshawa, Canada, March, 2008.
- [T10] “Virtual Vision: A New Paradigm for Camera Sensor Network Research,” University of Windsor Seminar Series, Windsor, Canada, February, 2007.
- [T9] “Applications of Computers & AI: Intelligent Perception in Camera Networks and Space Robotics,” Sunnybrook & Women’s Hospital Life Long Journey Lecture Series, Toronto, Canada, June, 2006.
- [T8] “Towards Intelligent Camera Networks: A Virtual Vision Approach,” Space Vision and Advanced Robotics Workshop, MDRobotics Ltd., Brampton, Canada, May, 2006.
- [T7] “Tracking Objects with a Network of Steerable Cameras,” Space Vision and Advanced Robotics Workshop, MDRobotics Ltd., Brampton, Canada, May, 2004.
- [T6] “CoCo – A Hybrid Architecture for Designing High-Level Controllers,” Montreal-Toronto Computer Vision Workshop, McGill University, Montreal, May, 2003.
- [T5] “Cognitive Controller,” Space Vision and Advanced Robotics Workshop, MDRobotics Ltd., Brampton, Canada, April, 2002.
- [T4] “Behavior and Cognitive Modeling for Autonomous Agents,” Space Vision and Advanced Robotics Workshop, MDRobotics Ltd., Brampton, Canada, April, 2001.

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CONTRIBUTED  
PRESENTATIONS

- [P26] “Real-time Video Summarization on Commodity Hardware,” *12th ACM International Conference on Distributed Smart Cameras (ICDSC 18)*, Eindhoven, 2018.
- [P25] “Fast Estimation of Large Displacement Optical Flow Using Dominant Motion Patterns & Sub-Volume PatchMatch Filtering,” *14th Conference on Computer and Robot Vision (CRV 17)*, Edmonton, May, 2017. (Presented by my student **M.A. Helala.**)
- [P24] “An Index Structure for Fast Range Search in Hamming Space,” *14th Conference on Computer and Robot Vision (CRV 17)*, Edmonton, May, 2017.
- [P23] “A formal Algebra implementation for distributed image and video stream processing,” *10th International Conference on Distributed Smart Cameras (ICDSC 16)*, Paris, 2016. (Presented by my student **M.A. Helala.**)
- [P22] “A formal Algebra implementation for distributed image and video stream processing,” **M.A. Helala**, K.Q. Pu, F.Z. Qureshi, *Proc. 10th International Conference on Distributed Smart Cameras (ICDSC 16)*, Paris, 2016, 8pp.
- [P21] “Constructing Image Mosaics Using Focus Based Depth Analysis,” *IEEE Winter Applications of Computer Vision Conference (WACV 16)*, Lake Placid, March, 2016. (Presented by my student **M.A. Helala.**)

- [P20] “Constructing Image Mosaics Using Focus Based Depth Analysis,” IEEE Winter Applications of Computer Vision Conference (WACV 16), Lake Placid, March, 2016. (Presented by my student **M.A. Helala.**)
- [P19] “Automatic Video Editing for Sensor-Rich Videos,” IEEE Winter Applications of Computer Vision Conference (WACV 16), Lake Placid, March, 2016, (Presented by my student **W. Taylor.**)
- [P18] “Towards Efficient Feedback Control in Streaming Computer Vision Pipelines,” Workshop on User-Centered Computer Vision (co-located with ACCV), Singapore, November, 2014. (Presented by my student **M.A. Helala.**)
- [P17] “A Stream Algebra for Computer Vision Pipelines,” 2nd Workshop on Web-scale Vision and Social Media (co-located with CVPR), Columbus, OH, June, 2014.
- [P16] “Topic Models for Image Localization,” Tenth Conference on Computer and Robot Vision (CRV 13), Regina, May, 2013. (Presented by my student **Z. Wang.**)
- [P15] “Mosaic of Near Ground UAV Videos Under Parallax Effects,” 6th ACM/IEEE International Conference of Distributed Smart Cameras (ICDSC 12), Hong Kong, October, 2012.
- [P14] “Road Boundary Detection in Challenging Scenarios,” 9th IEEE International Conference on Advanced Video and Signal-Based Surveillance (AVSS 12), Beijing, China, September, 2012. (Presented by my student **M. Helala.**)
- [P13] “Extracting 3D Blood Flight Trajectories from Videos for Forensic Analysis,” 1st International Conference on Pattern Recognition Applications and Methods (ICPRAM 12), Vilamoura, Algarve, Portugal, February, 2012. (Presented by my student **L. Zarrabeitia.**)
- [P12] “Activity Aware Video Collection to Minimize Resource Usage in Smart Camera Nodes (Extended Abstract),” *Workshop on Resource Aware Sensor and Surveillance Networks (RAWSNET 11)*, Klagenfurt, Austria, August, 2011.
- [P11] “Learning Proactive Control Strategies for PTZ Cameras,” *5th ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 11)*, Ghent, Belgium, August, 2011. (Presented by my student **W. Starzyk.**)
- [P10] “Negotiating Privacy Preferences in Video Surveillance Systems,” *24th International Conference on Industrial Engineering and Other Applications of Applied Intelligent Systems (IEA-AIE 2011)*, Syracuse, NY, June, 2011.
- [P9] “Collaborative Sensing via Local Negotiations in *Ad Hoc* Networks of Smart Cameras,” *4th ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 10)*, Atlanta, GA, September, 2010.
- [P8] “Planning Ahead for PTZ Camera Assignment and Control,” *Third ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 09)*, Como, Italy, September, 2009.
- [P7] “Multi-Camera Control Through Constraint Satisfaction for Persistent Surveillance,” 5th IEEE International Conference on Advanced Video and Signal Based Surveillance (AVSS 08), Santa Fe, NM, September, 2008.

- [P6] “A Simulation Framework for Camera Sensor Networks Research,” 11th Communications and Networking Simulation Symposium (CNS 2008), Ottawa, Canada, April, 2008.
- [P5] “Distributed Coalition Formation in Visual Sensor Networks: A Virtual Vision Approach,” Third IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS 07) Santa Fe, NM, USA, June, 2007.
- [P4] “Virtual Vision and Smart Cameras Networks,” International Workshop on Distributed Smart Cameras (DSC 2006), Boulder, CO, USA, October, 2006.
- [P3] “Surveillance Camera Scheduling: A Virtual Vision Approach,” Third ACM Workshop on Video Surveillance and Sensor Networks (VSSN 05), Singapore, November, 2005.
- [P2] “The Cognitive Controller: A Hybrid, Deliberative/Reactive Control Architecture for Autonomous Robots,” 17th International Conference on Industrial & Engineering Applications of Artificial Intelligence & Expert Systems (IEA/AIE 2004), Ottawa, Canada, May, 2004.
- [P1] “A Cognitive Vision System for Space Robotics,” Workshop on Applications of Computer Vision, European Conference on Computer Vision (ECCV 04), Prague, Czech Republic, May, 2004.

PROFESSIONAL  
ACTIVITY

EDITORIAL DUTIES AND PANELS

Guest Editor, *IEEE Sensors*, special issue on “Distributed Smart Sensing for Mobile Vision,” 2015.

Guest Editor, *Computer Vision and Image Understanding*, special issue on “Image Understanding for Real-World Distributed Video Networks,” 2015.

Guest Editor, *IEEE Journal on Emerging and Selected Topics in Circuits and Systems*, special issue on “Computational and Smart Cameras,” 2013.

Penalist, *ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 14)*, 2014.

Penalist, *ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 10)*, 2010.

GRANT REVIEWING

*King Abdulaziz City for Science and Technology (KACST) Grant Reviewer for Research Competitiveness Program, American Association for the Advancement of Science (AAAS)*, 2018.

*NSERC Discovery Grant*, 2016, 2017, 2018.

*NSERC Strategic Projects*, 2011, 2014.

*Qatar National Research Fund (National Priorities Research Program)*, 2011, 2013, 2014.

*NSERC Strategic Projects*, 2009, 2010.

*NSERC Collaborative Research and Development Grants*, 2009.

*Mitacs Accelerate*, 2015.

#### PROGRAM COMMITTEE MEMBERSHIP & CONFERENCE REVIEWING

*IEEE International Conference on Computer Vision (ICCV)*, 2007, 2009, 2011, 2013, 2015.

*IEEE International Conference on Advanced Video and Signal-Based Surveillance (AVSS)*, 2010, 2012, 2013, 2014, 2016, 2018.

*IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2006, 2007, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017.

*ACM/IEEE Conference on Distributed Smart Cameras (ICDSC)*, 2014, 2015, 2016, 2017.

*European Conference on Computer Vision (ECCV)*, 2008, 2016.

*Asian Conference on Computer Vision (ACCV)*, 2016.

*IEEE/ISPRS workshop on Multi-Sensor Fusion for Outdoor Dynamic Scene Understanding*, in conjunction with IEEE Conference on Computer Vision and Pattern Recognition, 2014.

*International Society for Photogrammetry and Remote Sensing*, 2013.

*International Conference on Pattern Recognition (ICPR)*, 2014, 2018.

*IEEE Winter Conference on Applications and Computer Vision (WACV)*, 2014, 2016, 2017, 2018, 2019.

*IEEE Workshop on the Applications of Computer Vision*, 2013.

*International Conference on Informatics, Electronics & Vision (ICIEV)*, 2012, 2013.

*First IEEE Workshop on Camera Networks*, 2010. (Co-located with CVPR10.)

*IEEE Workshop on Advances in Automated Multimedia Surveillance for Public Safety (AAMS-PS)*, 2012, 2013.

*International Conference on Robotics and Automation (ICRA 11)*, 2011.

*International Conference on Distributed Computing Systems (ICDCS)*, 2008, 2009.

*Computer Graphics International (CGI)*, 2010, 2012.

*1st IEEE International Workshop on Advances in Automated Multimedia Surveillance for Public Safety (AAMS-PS'11)*, 2011.

*Conference on Computer and Robot Vision (CRV)*, 2018.

*International Conference on Pattern Recognition (ICPR)*, 2018.

CONFERENCE ORGANIZATION

Co-Chair, *13th Conference on Computer and Robot Vision*, Victoria, June, 2016.

Co-Chair, *12th Conference on Computer and Robot Vision*, Halifax, June, 2015.

Co-Chair, *Third IEEE Workshop on Camera Networks and Wide Area Scene Analysis*, 2013. (Co-located with CVPR13.)

Co-Chair, *Second IEEE Workshop on Camera Networks and Wide Area Scene Analysis*, 2012. (Co-located with CVPR12.)

Co-Chair, *First IEEE Workshop on Camera Networks and Wide Area Scene Analysis*, 2011. (Co-located with CVPR11.)

Co-Chair, *IBM CASCON Workshop on Software Modeling for Embedded and Mobile Sensor Systems*, November, 2011.

Technical Program Chair, *7th ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 13)*, 2013.

Technical Program Chair, *6th ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 12)*, 2012.

Publicity Chair, *10th IEEE International Conference on Advanced Video and Signal-Based Surveillance*, 2013.

Publicity Chair, *IEEE International Workshop on Advances in Automated Multimedia Surveillance for Public Safety (AAMS-PS)*, 2011.

Poster/Demo Chair, *The 18th Symposium on Virtual Reality Software and Technology*, 2012.

Treasurer, *The 18th Symposium on Virtual Reality Software and Technology*, 2012.



Member, HETRU/MHR Conference Organizing Committee, *Second Annual Conference on What Really Works in Technology-Enhanced Health Education: Effective Use of Simulations and e-Education Strategies to Improve Teaching and Learning*, 2009.

#### JOURNAL REVIEWING

IEEE Computers.  
 Künstliche Intelligenz (special issue on Space Robotics).  
 IEEE Transactions on Pattern Analysis and Machine Intelligence.  
 IEEE Transactions on Communications.  
 International Journal of Trust Management in Computing and Communications.  
 Transactions on Intelligent Systems and Technology.  
 Transactions on Sensor Networks.  
 Machine Vision and Applications.  
 Multimedia Tools and Applications.  
 Advances in Multimedia Journal.  
 Journal of Aerospace Engineering.  
 Computer Animation and Virtual Worlds.  
 Multimedia Systems Journal.  
 Image Communication Journal.  
 Acta Astronautica.  
 IEEE Transactions on Automation Science and Engineering.  
 IEEE Transactions on Multimedia.  
 IEEE Transactions on Circuits and Systems for Video Technology.  
 International Journal of Optomechatronics.  
 International Journal of Computer Mathematics.  
 IEEE Journal of Selected Topics in Signal Processing.  
 IEEE Virtual Reality.  
 IPSJ Transactions on Computer Vision and Applications.  
 Pattern Recognition Letters.  
 Canadian Young Scientist Journal.  
 Journal of Selected Topics in Signal Processing

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#### TRAINING OF HIGHLY QUALIFIED PERSONNEL

#### CURRENT GRADUATE STUDENTS

K. Mantripragada, Ph.D. Computer Science, In progress.  
 L. Zarrabeita, Ph.D. Computer Science, In progress. (Co-supervised with Dr. D. Aruliah)  
 T. Joseph, M.Sc. Computer Science, In progress.  
 A. Mohammad, M.Sc. Computer Science, In progress.  
 M. Baenah, M.Sc. Computer Science, In progress.

H. Thomas, M.Sc. Computer Science, In progress. (Co-supervised with Dr. A Salehi-Abari)

G. Reshad, M.Sc. Computer Science, In progress. (Co-supervised with Dr. M. Ibrahimi)

M. Stergianis, M.Sc. Computer Science, In progress.

#### PAST GRADUATE STUDENTS

M. Helala, Ph.D. Computer Science, September, 2018. (Co-supervised with Dr. K.Q. Pu)  
Thesis title: *Towards Efficient and Scalable Computer Vision Systems*

W. Taylor, M.Sc. Computer Science., February 2018.  
Thesis title: *Achieving Real-Time Video Summarization on Commodity Hardware*

D. Nemirovsky, M.Sc. Computer Science, August, 2017. (Co-supervised with Dr. I. Tamblin)  
Thesis title: *Analysing and Inferring Atomic Structure from Nanoscale Imagery*

R. Shanks, M.Sc. Computer Science, December, 2015. (Co-supervised with Dr. M. Green)  
Thesis title: *Towards Parallax-Based Unencumbered Displays*

E.R. Reina, M.Sc. Computer Science, Completed, November, 2014. (Co-supervised with Dr. K.Q. Pu)  
Thesis title: *An index structure for fast range search in hamming space*

J. Stadler, M.Sc. Computer Science, Completed, October, 2014.  
Thesis title: *A framework for video driven crowd synthesis*

W. Starzyk, M.Sc. Computer Science, Completed, October, 2014.  
Thesis title: *A negotiation protocol with conditional offers for camera handoffs*

N. Parvin, M.Sc. Computer Science, Completed, October, 2013. (Co-supervised with Dr. K.Q. Pu)  
Thesis title: *Robust Curved Road Boundary Detection Using Hierarchical Clustering*

Z. Wang, M.Sc. Computer Science, Completed, August, 2013.  
Thesis title: *Topic Models for Image Localization*

R. Murray, M.Sc. Modeling and Computational Science, Completed, August, 2012. (Co-supervised with Dr. D. Aruliah)  
Thesis title: *Computational and Laboratory Investigations of a Model of Blood Droplet Flight for Forensic Applications*

C. Little, M.Sc. Computer Science, Completed, December, 2011. (Co-supervised with Dr. M. Green)  
Thesis title: *Ray Tracing Large Distributed Datasets using Ray Caches*

G. Lobo, M.Sc. Modeling and Computational Science, Completed, August, 2011.  
(Co-supervised with Dr. D. Aruliah)

Thesis title: *Investigation into Smoothed Particle Hydrodynamics for Non-Newtonian Droplet Modelling*

M.S. Barhm, Master's in Information Technology Security Thesis, Completed, August, 2009. (Co-supervised with Dr. K. El-Khatib)

Project title: *Introducing PASS: A Privacy Aware Surveillance System*

RESEARCH ASSISTANTSHIP

M. Al-Sukhni, Research Assistant, Completed, April 2012. (Co-supervised with Dr. K. El-Khatib)

UNDERGRADUATE RESEARCH ASSISTANTS

M. Lombardo, NSERC Undergraduate Research Award, May, 2018.

Project title: *Content Aware Video Summarization*

M. Stergianis, NSERC Undergraduate Research Award, May, 2017.

Project title: *Stereo Depth Estimation using Slanted Windows*

M. Stergianis, NSERC Undergraduate Research Award, May, 2016.

Project title: *Long-term Activity Recognition in Construction Sites*

S. G. Kamyar, UTRECS, University of Toronto, Completed, Summer 2015. (co-supervised with S. Dickinson)

Project title: *Surface Proposals*

E. Datsenko, UTRECS, University of Toronto, Completed, Summer 2015. (Co-supervised with S. Dickinson)

Project title: *Surface Proposals*

S. Singhal, Mitacs Globalink Summer Intern, Completed, Summer 2015.

Project title: *Temporal Superpixels*

P. Dugar, Mitacs Globalink Summer Intern, Completed, Summer 2015.

Project title: *Action Recognition*

W. Taylor, Summer Research Assistant, Completed, August, 2015.

Project title: *Vehicle Detection and Tracking in Traffic Cameras*

W. Taylor, NSERC Undergraduate Research Award, Completed, August, 2014

Project title: *New Tools for Automatic Video Editing*

W. Taylor, Work Study, Completed, August, 2013.

Project title: *Intelligent Context Aware Video Editing*

R. Shanks, Summer Research Student, Completed, August, 2013. (Co-supervised with Dr. M. Green)

Project title: *Investigations into High-Performance Rendering Using CUDA*

D. Nemirovsky, Summer Research Student, Completed, August, 2013. (Co-supervised with Dr. I. Tablyn)

Project title: *LED Based Indoor Localization*

J. Stadler, Summer Research Student, Completed, August, 2012. (Co-supervised with Dr. A. Hogue)

Project title: *Vision-Based Lift Analysis using Microsoft Kinect*

W. Starzyk, Summer Research Student, Completed, August, 2011.

Project title: *Learning Proactive Control Strategies for PTZ Cameras*

A. Domurad, NSERC Undergraduate Research Award, Completed, August, 2011.

Project title: *Pedestrian Tracking using a Visual Analysis Pipeline*  
*Best Poster, Faculty of Science, Student Research Showcase.*

W. Starzyk, Summer Research Student, Completed, August, 2010.

Project title: *A Cognitive Camera Network*

M.T. Kaykobad, Summer Research Student, Completed, August, 2010.

Project title: *Dynamic Path Planning for Crowd Simulation*

A. Domurad, Summer Research Student, Completed, August, 2010.

Project title: *Color-based Pedestrian Tracking*

K. Ajorli, Summer Research Student, Completed, July, 2009.

Project title: *Pedestrian Tracking using OpenCV Library*

C. Little, SHARCNET Research Fellow, Completed, August, 2009.

Project title: *Pedestrian Animation using SHARCNET HPC Environment*

#### UNDERGRADUATE THESIS STUDENTS

M. Lombardo, Undergraduate Thesis, Expected April 2019.

M. McColeman, Undergraduate Thesis, Expected April 2019.

M. Stergianis, Undergraduate Thesis, April 2019.

Thesis title: *Stereo Vision: Cost Volume Filtering meetings Deep Learning*

H. Thomas, Undergraduate Thesis, April 2019.

Thesis title: *Video Summarization with Super-Frame Segmentation*

R. De Bruyn, Undergraduate Thesis, April 2017.

Thesis title: *Mobile Image Analysis*

J.M. Mendez, Undergraduate Thesis, April 2017.

Thesis title: *Genomic Diff on the Cloud*

W. Taylor, Undergraduate Thesis, Completed, April 2015.

Thesis title: *Vision-Based High-Performance Highway Vehicles Analytics*

P. Goebel, Undergraduate Thesis, Completed, April 2014.

Thesis title: *Fast Image Matching using ORB and Multi-Index Hashing*

C. Marshall, Undergraduate Thesis, Completed, April 2014.

Thesis title: *Privacy Protected Video Surveillance*

D. Nemirovsky, Undergraduate Thesis, Completed, April 2014. (Co-supervised with Dr. I. Tamblin)

Thesis title: *Object Detection and Annotation in Videos for Location Recall*

S. Gloin, Undergraduate Thesis, Completed, April 2013. (Co-supervised with Dr. D. Aruliah)

Thesis title: *Blood Droplet Analysis Using Image Processing and Ellipse Fitting Techniques*

J. Stadler, Undergraduate Thesis, Completed, April 2012.

Thesis title: *Interactive Online Image Stitching for Panoramic Image Generation*

T. Chaung, Undergraduate Thesis, Completed, April 2012.

Title Thesis: *Dynamic Crowd Simulation*

J. Elliot, Undergraduate Thesis, Completed, April 2012. (Co-supervised with Dr. K.Q. Pu)

Thesis title: *Regression of Graph Images using Piecewise Interpolation*

A. Kidd, Directed Studies, Completed, December, 2011. (Co-supervised with Dr. J.S. Bradbury)

Project title: *Digital Signage*

W. Starzyk, Undergraduate Thesis, Completed, April, 2011.

Thesis title: *Virtual Vision Simulator for Smart Camera Network Research*

M.T. Kaykobad, Undergraduate Thesis, Completed, April, 2011.

Thesis title: *A Study on Simulating Formation and Movement of a Group of Agents*

A. Wjtowich, Undergraduate Thesis, Completed, April, 2010. (Co-supervised with Dr. K.Q. Pu)

Thesis title: *A Sliding Model for Estimating Traffic Density*

B. Chicoine, Undergraduate Thesis, Completed, April, 2010. (Co-supervised with Dr. J.S. Bradbury and Dr. C. Collins)

Thesis title: *An Online System for Visualizing UOIT Class Schedules*

STUDENT EXAMINATION COMMITTEES

External examiner, Ph.D., Y. Xue, University of Alberta, June, 2018.

External examiner, Ph.D., P. Habashi, University of Windsor, May, 2018.

External examiner, Ph.D., R. Alomari, UOIT, February, 2018.

External examiner, Ph.D., A. Zaheer, Lahore University of Management Sciences, Punjab, Pakistan, February, 2018.

Supervisory Committee, M.Sc. CS, A. Hedrick, UOIT, October, 2017.

External examiner, Ph.D., S. Aghababaei, UOIT, July, 2017

External examiner, Ph.D., M. Khan, COMSAT Institute of Information Technology, March, 2017.

Supervisory committee, Ph.D. Candidacy, K. Mills, UOIT, March, 2017.

External examiner, Ph.D. Candidacy, R. Alomari, UOIT, April, 2017.

University examiner, Ph.D. Candidacy, Electrical Engineering, S. Hamidi, UOIT, June, 2016.

Examiner, Ph.D. Candidacy Exam, S. Aghababaei, UOIT, April, 2016.

External examiner, Ph.D. Computer Science, A.S. Montero, University of Ottawa, May, 2016.

External examiner, Ph.D., S.S. Barpanda, National Institute of Technology Rourkela, May, 2016

External examiner, M.A.Sc. Engineering and Applied Science, M. Gilani, UOIT, April, 2016

External examiner, Ph.D. CS, M. Schranz, Alpen-Adria-Universität Klagenfurt, Institute of Networked and Embedded Systems, Pervasive Computing, 2016.

External examiner, M.A.Sc. Mechanical Engineering, F. Meshkinfam, UOIT, November, 2015.

External examiner, M.A.Sc. Engineering and Applied Science, N. Ben Otman, UOIT, December, 2015.

External examiner, Ph.D. CS, P. Natarajan, National University of Singapore, October, 2013.

External examiner, M.Sc. CS, R. Bisewski, University of Winnipeg, July, 2012.

Chair, Ph.D. Thesis Proposal Defense, D. Kelk, UOIT, December, 2012.

Thesis Committee, M.Sc. CS, M-W Chang, UOIT, November, 2012.

Thesis Committee, M.Sc. CS, R. Deighton, UOIT, November, 2012.

External Examiner, M.A.Sc. ECE, Z.M. Islam, UOIT, January, 2012.

Chair, M.Sc. CS Defense, Martin Mwebesa, UOIT, December, 2011.

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**UNIVERSITY  
SERVICE****UNIVERSITY-WIDE**

Faculty of Science Representative on the University Recruitment Committee, 2017.

Member, Dean of Faculty of Business and IT Search Committee, 2017.

Member, Faculty of Business and IT Faculty Appointment Committee, 2017. (*Participated in three faculty hires*)

Judge, Student Research Showcase, August, 2017.

Reviewer, Faculty of Business and Information Technology Tenure and Promotion Application, 2017.

Reviewer, Faculty of Science Tenure and Promotion Application, 2017.

Member, Dean of Faculty of Science Search Committee, 2013.

Member, Computer Science Graduate Program Review, Internal Assessment Committee, 2013.

Judge, 3 Minute Thesis (3MT) presentations, March, 2013.

Judge, Student Research Showcase, August, 2012.

Member, Curriculum and Program Review Committee, 2012.

Member, Dean of Faculty of Education Search Committee, 2011.

Judge, Student Research Showcase, August, 2011.

Coach, ACM Competition, October, 2011.

Name Reader, Eighth UOIT Convocation, June, 2011.

Coach, ACM Competition, October, 2010.

Member, UOIT Presidential Search Committee, 2010–2011.

Member (Faculty of Science), Academic Council, 2010–2013.

Faculty of Science Representative, Undergraduate Student Research Award Program, 2010.

Member, University-Community Link Unit, 2010.

Coach, ACM Competition, October, 2009.

Judge, Student Research Day, August, 2009.

Coach, ACM Competition, November, 2008.

Judge, Student Research Day, August, 2008.

FACULTY OF SCIENCE

Member, CS Academic Associate Hiring Committee, June, 2018.

Participant (CS, Faculty of Science), UOIT Open House, November, March, 2018.

Speaker, Faculty of Science High School Visit, February, 2018.

Member, Student Retention Committee, 2017, 2018.

Participant, Web Committee, 2017, 2018.

Participant (CS, Faculty of Science), UOIT Open House, November, November, 2017.

Organizer (CS, Faculty of Science), UOIT Open House, March, 2017.

Organizer (CS, Faculty of Science), UOIT Open House, November, 2016.

Speaker, Faculty of Science High School Visit, February, 2016.

Member, ad hoc Web Committee, Faculty of Science, 2016.

Organizer (CS, Faculty of Science), UOIT Open House, February, 2016.

Member, Faculty of Science Executive Committee, 2016.

Member, ad hoc TELE Committee, Faculty of Science, 2015.



Member, ad hoc Retention Committee, Faculty of Science, 2015.

Member, Dean of Science Advisory Committee, 2015.

Member, Faculty of Science Research Excellence Awards Nomination Committee, 2013.

Member Computer Science Teaching Faculty Hiring Committee, 2013

Member, Undergraduate Student Research Awards, 2013

Member, NSERC/OGS Review Committee (Computer Science), 2013

Participant, UOIT Open House, March, 2012.

Organizer, Science Undergraduate Research Day, August, 2011.

Member, NSERC/OGS Review Committee (Computer Science), 2010.

Organizer, Science Undergraduate Research Day, August, 2010. (Co-organized with L. Trevani)

Member, Science Honours and Awards Committee, 2010, 2011.

Organizer, Computer Science Seminar, Winter 2010–Fall 2011.

Member, NSERC/OGS Review Committee, 2009.

Organizer, Science Undergraduate Research Day, August 2009. (Co-organized with J.S. Bradbury)

#### COMMUNITY OUTREACH

Participant, Ontario University Fair, September, 2016.

Participant, Ontario University Fair, September, 2015.

Participant, Ontario University Fair, September, 2013.

Participant, Ontario University Fair, September, 2012.

Participant, Ontario University Fair, September, 2011.

Participant, Science Rendezvous, “Making Machines See,” May, 2013.

Participant, International Science Fair Team Canada Visit, 2011.

Participant, Spring Open House, November, 2010.

## Curriculum Vitae

F.Z. Qureshi

Participant, Ontario University Fair, September, 2010.

Participant, Science Rendezvous, "Light, Action and Overcoming Color Blindness for Computers," May, 2010. (With Dr. K.Q. Pu.)

Participant, Winter Open House, February, 2010.

Attendee, Science Scholars' Dinner, March, 2010.

Penalist, School Career Fair, Lester B. Pearson Collegiate, October, 2009.

Participant, Ontario University Fair, September, 2009.

Participant, Winter Open House, February, 2009.

Participant, Computer Science Booth, Graduate Student Fair, January, 2009.

Participant, Ontario University Fair, September, 2008.

Attendee, Science Teachers' Event, September, 2008.