Hardik A. Gohel, Ph.D. University of Houston – Victoria

gohelh@uhv.edu +1 (786)376-5284

Research Interest

Artificial Intelligence, Digital Health, Cybersecurity, Data Science

Academic Appointments

Director of Applied AI Research Lab **May 2020- Present**
University of Houston – Victoria, Victoria, Texas

Assistant Professor of Computer Science **Aug 2019 – Present**
University of Houston – Victoria, Victoria, Texas

Postdoc Fellow **Oct 2016 – Aug 2019**
Florida International University, Miami, Florida

Assistant Professor of Computer Science & Engineering **Jan 2015 – Aug 2016**
Gujarat Technological University, India

Visiting Assistant Professor of Computer Science & Engineering **Sept 2010 – Dec 2015**
Gujarat Technological University, India

Lecturer, Computer Science **Jun 2009 – Jul 2010**
RK University, India

Education

Ph.D. in Computer Science **Sept 2010 – Mar 2015**
University of Hertfordshire, United Kingdom

Post Graduate Diploma in International Business (4 Sem. Program) **Sept 2013 - Apr 2016**
Symbiosis Center for Distance Learning, India

Master in Computer Applications **Jun 2006 – Jul 2009**
Sardar Patel University, India

Bachelor in Computer Science **Jun 2003 – May 2006**
Saurashtra University, India

Current & pending grant support

1. **Current**

Project/Proposal Title: AI-driven eHealth: Healthcare Monitoring using Mobile Device and Artificial Intelligence
Source of Support: UHV

Total Award Amount: $10,000 Total Award Period Covered: 06/01/2020-08/30/2020
Person-months/year summer: 1.0

2. **Current**

Project/Proposal Title: A 3-Step Approach Providing a Pipeline of Skilled Minority STEM Professionals for the DoD Future Workforce
Source of Support: DoD-NDEP
Total Award Amount: $30,00,000 Total Award Period Covered: 09/15/2020-08/20/2023
Person-months/year Acad: 2

3. **Pending**

Project/Proposal Title: Automated AI Transformative Framework for Detection and Monitoring of Coronavirus
Source of Support: DoD: BRO-20-NEWTON
Total Award Amount: $33,460 Total Award Period Covered: 09/15/2020-08/20/2021
Person-months/year Cal: 0.4 Acad: 0.5

4. **Pending**

Project/Proposal Title: Development and Analysis of Integrated Water-Cooled Battery Storage Technology for Fossil Energy Power Plants
Source of Support: U.S. Department of Energy – FE (NETL)
Total Award Amount: $398,333, Total Award Period Covered: 9/1/18-8/31/21
Person-months/year Summer: 1 month

Other Funded Research Proposal Contributions

Cyber Test Automation & Monitoring – 4 million for 5 years **2016-20**
TRMC – Department of Defense

Smart Bandages for Wound-Monitoring and Analysis – 250K **Dec- 2018**
National Science Foundations

Collaborative Trustworthy Cyberspace for Security & Privacy of Social Media 2018
Cyber Florida – 75 K for 1 year

AI/Machine Learning Work force Development - 2 million for 3 years **Jul 2018**
DIA Critical Technology and Intelligence Studies Program

Nuclear Big Data Framework & Deep Learning – 1.2 million for 3 years **May 2018**
National Science Foundation (NSF) with IRSC

Predictive Analytics with Big Data Framework - 200K for 2 years **Jan 2018**
National Science Foundation (NSF)

Nuclear Energy Lidar Big Data Analytics - $800K for 3 years **Jan 2018**
NEUP – Depart of Energy

DB & Mobile Forensics Infrastructure for Workforce - $100K for 1 year **Mar 2018**
Florida Center for Cybersecurity

HVAC Sensors Hybrid Data Analysis = $700K for 3 years **Aug 2017**
ARPA-E Department of Energy

Awards & Recognition

Office of Provost Author's Recognition **2017 & 2018**
Florida International University

Maximum Publishing Award in CSI Publications **Jan 2018**
Computer Society of India

Paper Presenter at International Conference Award **Jan 2018**
Computer Society of India

Best Research Proposal Award **Mar 2016**
DocConference 2016 by ACM
"Design & Analysis of Optimum Wireless Transmission Strategy on RCP"
Best Research Paper Award **Jul 2015**
International Conference on E-learning & Computer Software
"Development of Specialized Operators for Analysis of Social Media through Web Intelligence"

Teaching Achievements

- Designed MS Data Science program for University of Houston-Victoria
- Designed ***data science***, ***artificial intelligence*** and ***cybersecurity*** concentrations for BAAS, BS, MS in computer science, computer information systems, in department of computer science at University of Houston-Victoria
- Designed ***data analytics*** concentrations for BS and MS in management information systems at school of business administration at University of Houston-Victoria
- ***Graduate thesis committee*** at University of Houston-Victoria
- Designed, and mapped with computer science, curriculum ***IoT with Applied Analytics*** for School of Electrical and Computing at Florida International University
- Developed infrastructure – Database and mobile forensics analysis lab from cyber Florida funding
- Teaching of malware analysis using cuckoo, Limon sandbox and kali Linux
- Designed Network Security material and published text book **Board of Study Member** of Gujarat Technological University for specialized program of **Artificial Intelligence, Cybersecurity and Cloud Computing –** 2015 to 2016

Courses Taught

Graduate Courses	***Undergraduate Courses***

• Programming for data science • Data science using machine learning • Fundamentals of cybersecurity • Network design management	• Digital forensics • Telecommunication and networks

Book/ Book Chapter Publication

Big Data and Security Intelligence **Mar 2018**
Springer Publications ISBN 978-981-10-6680-1

Applied ICT – Beyond Oceans & Spaces **Jan 2017**
LAP Germany ISBN 978-3330035331

Human Brain Computer Interface **Sep 2015**
LAP Germany ISBN 978-3659779909

Introduction to Network & Cyber Security **Jun 2015**
LAP Germany ISBN 978-3659744723

Book Edit

S.M. Anouncia, H.Gohel, S.Vairamuthu, "**Data Visualization: Trends and Challenges towards Multidisciplinary Perception**" Springer Publications Pvt. Ltd. 2019

Original Scientific Contributions

Copyright on **Secured & Intelligent Big Data Migration for Business** **Jun 2017**
Copyright No.145/2017-CO/SW

Journal Publications

1. H. Gohel, A. Kaushik, S. Bhansali, "*A Review on Health Monitoring using Wearable IoT's and Artificial Intelligence*", Forthcoming at IEEE Communications Surveys and Tutorials (COMST)
2. H. Gohel, S. Bharadwaj, A. Aravelli, "*Multiagent Distributed Artificial Intelligence System for Cloud IoT Energy Management*", Forthcoming at IEEE Internet of Things Journal (IoT)
3. H. Gohel, M.Mujawar, A.Kaushik, S.Bhansali, "*Blockchain-based Secure Healthcare prediction model using Enhanced Deep Feed Forward Neural Networks*" Forthcoming at IEEE Transactions on Emerging Topics in Computational Intelligence(TETCI)
4. H. Gohel, A. Upadhyay, M. Raval, "*IoT Wearable Devices Health Monitoring using Artificial Intelligence: A Comprehensive Survey*", IEEE Transactions on Emerging Topics in Computational Intelligence (TETCI)
5. A. Kaushik, J.Dhau, H. Gohel, B. Kateb, N. Kim, D. Goswami, "*Electrochemical SARS-CoV-2 sensing at point-of-care and artificial intelligence for intelligent COVID-19 management*", Forthcoming at ACS Applied Bio Materials

6. M. Mujawar, H. Gohel, S.K.Bhardwaj, S. Srinivasan, N. Hickman, A. Kaushik, "*Nano-enabled biosensing systems for intelligent healthcare: towards COVID-19 management*", Elsevier Journal of materialstoday CHEMISTRY, doi.org/10.1016/j.mtchem.2020.100306
7. H. Gohel, H. Upadhyay, L. Lagos, K.Cooper, A. Sanzetenea, "*Predictive Maintenance Architecture Development for Nuclear Infrastructure using Machine Learning*", ScienceDirect Elsevier Journal of Nuclear Engineering and Technology, 2020
8. S. Bhardwaj, H. Gohel and S. Namuduri, "*A Multiple Input Deep Neural Network Architecture for Solution of One-Dimensional Poisson Equation*," in IEEE Antennas and Wireless Propagation Letters. doi: 10.1109/LAWP.2019.2933181
9. H. Upadhyaya, H. Gohel, A. Pons, L. Lagos, "*Virtual Memory Introspection Framework for Cyber Threat Detection in Virtual Environment*", Journal on Multidisciplinary Sciences and Engineering, Vol 3, Issue 1, pp 25-29, 2018
10. H. Gohel, H. Upadhyay, "*Design of Advanced Cyber Threat Analysis Framework for Memory Forensics*", International Journal of Innovative Research in Computer and Communication Engineering, Vol 5, Issue 2, pp 132-137, 2017
11. H. Gohel, B. Garsondiya, A. Kothia, H. Jani, "*Operational Study of Brain Reading – Neuroimaging in Human Brain Computer Interface*", American Research Journal of Computer Science and Information Technology, Vol 2, Issue 1, pp 1-6, 2017
12. H. Gohel, A. Upadhyay, P. Sharma, "*Analysis of Social Media Attacks and Classify Advances to Preserve*", International Research Journal of Engineering and Technology, Vol 2, Issue 3, 2016
13. H. Gohel, A. Upadhyay, "*World Wide Web, its Evolution and Future: A Historical Analysis at Cursory Glance*", International Research Journal of Engineering and Technology, Vol 2, Issue 3, 2016
14. H. Gohel, D. Polani, "*Development of Enhanced Analysis of Social Media using Web Intelligence*", International Research Journal on Police Science, Vol 1, Issue 1, pp 1-12, 2015
15. H. Gohel, "*Automation of Social Media Analysis by Web Intelligence*", International Journal of Science Research and Technology, Vol 1, Issue 1, pp 17-21, 2015
16. H. Gohel, "*Design of Intelligent Web based Social Media for Data Personalization*", International Journal of Innovative & Emerging Research in Engineering, Vol 2, Issue 1, pp 42-45, 2015
17. H. Gohel, A. Upadhyay, "*Reinforcement of Knowledge Grid Multi-Agent Model for e-Governance Inventiveness in India*" Productivity: a quarterly journal of the National Productivity Council, Vol. 53 Issue 3, pp 232-238, 2012

Conference Publications

1. H. Upadhyay, H. Gohel, A. Pons, L. Lagos, "*Windows Virtualization Architecture For Cyber Threats Detection*", IEEE Conference on Data Intelligence and Security, pp 119-122,2018
2. D. Levy, H. Gohel, H. Upadhyay, A. Pons, L. Lagos, "*Design of Virtualization Framework to Detect Cyber Threats in Linux Environment*" IEEE Conference on Cyber Security and Cloud Computing, pp 316-320, 2017
3. H. Gohel, P. Sharma, "*Intelligent Web Security Testing with Threat Assessment and Client Server Penetration*", Springer Conference on ICT for Sustainable Development, pp 555-568, 2016

4. H. Gohel, "*Development of Specialized Operators Analysis of Social Media through Web Intelligence*", International Conference on E-Learning Engineering and Computer Software, pp 82-86, 2015
5. H. Gohel, A. Upadhyay, "*Study of Specialized Methodologies of Soft Computing in Bioinformatics*", Emerging Trends in Information, Technology and Management, 2011
6. H.Gohel, K. Shukla, "*Interactive Computer Games As An Emerging Application Of Human Level Artificial Intelligence*" Conference on Information Technology & Business Intelligence, 2010

Non-refereed publications

1. H. Gohel, "*Knowledge Management Approach to Identify Perceptual Study and its Implementation*" International Journal of Information and Computing Technology, Vol 2, Issue 1, pp. 48-54, 2011
2. M.P.Singh, D.H.Parekh, H. Gohel, "*Soft Computing Technology- an Impending Solution Classifying Optimization Problems*", International Journal on Computer Applications and Management, 2012
3. H. Gohel, "*Development of Service Oriented Architecture for New Knowledge Based System of E-Governance*" International Journal of Information and Computing Technology, Vol 1, Issue 1, 2010
4. H. Gohel, V. Gondalia. "*Executive Information Advancement of Knowledge Based Decision Support System for Organization of United Kingdom*", International Journal Of Advanced And Innovative Research, 2013
5. H. Gohel, A. Upadhyay, "*Study of Cyber Security with Advance Concept of Digital Signature*", International Journal of Advanced Research in Computer Science, Vol 6, No. 5, pp 73-76, 2015

Magazine Publications

1. H. Gohel, H. Upadhyay, "*Developing Solutions with Big Data Technology*", CSI Communications – Knowledge Digest for IT Community, Vol 41, Issue 2, May 2017
2. H. Gohel, H. Upadhyay, "*Cyber Threat Analysis with Memory Forensics*", CSIC – Knowledge Digest for IT Community, Vol 40, Issue 11, pp 17-19, 2017
3. H. Gohel, "*Cyber Security and Social Media*", CSI Communications Knowledge Digest for IT Community, Volume No. 39, Issue No. 5, 2015
4. H. Gohel, P. Sharma, "*Study of Quantum Computing with Significance of Machine Learning*", CSI Communications Knowledge Digest for IT Community, Volume No. 38, Issue No. 11, February 2015
5. H. Gohel, "*Role of Machine Translation for Multilingual Social Media*" CSI Communications Knowledge Digest for IT Community Volume No. 38, Issue No. 12, March 2015
6. H. Gohel, "*Data Science - Data, Tools & Technologies*", CSI Communications Knowledge Digest for IT Community, Volume No. 39, Issue No. 3, 2015
7. H. Gohel, "*Role of SMAC Technologies in E-Governance Agility*", CSI Communications Knowledge Digest for IT Community, Volume No. 38, Issue No. 7, pp 7-9,2014
8. H. Gohel, "*Looking Back at the Evolution of the Internet*", CSI Communications Knowledge Digest for IT Community, Volume No. 38, Issue No. 6, 2014

Invited Talk as a keynote speaker

1. "*Investigator Study of Social Media Security*", International Conference on Computer Science Networks and Information Technology, Thailand, 2016
2. "*Web Intelligence and Internet Security*", STTP on Exploring the Internet for Enhancing Teaching Skills, Government Engineering College, Rajkot, India, 2016
3. "*Emerging Trends on Social Engineering*", 50th annual convention by Computer Society of India Delhi Chapter, India, 2015
4. "*Trends and Challenges working on Linux KDE-GNOME Environment*", An industrial expert session at geetanjali college, Rajkot, India, 2016

Workshops/Seminars/Webinars

As a Speaker

1. Webinar on "Deep Learning for Medical Imaging – Classification of Chest vs. Abdominal X-Rays", Parul University – India August 10, 2020
2. Webinar on "Secure Digital Healthcare using AI", JSPM's Rajarshi Shahu College of Engineering – India, on July 22, 2020
3. Webinar on "Internet of Medical Things and Network Data Forensics", Raksha Shakti University – India, on July 8, 2020
4. Webinar on "*Artificial Intelligence and Cybersecurity*" AGU Shimla University – India, on June 14, 2020

Attended

1. Webinar on "*Faculty Early Career Development Program"* 2018
2. Faculty Mentor Program on "*NSF Career Award*" by Florida International University
3. One week hands on training on "*Computer Hacking Forensic Investigator*" March 2017
4. Faculty Development Program on "*Design Engineering in Computer Science*" April 2015
5. IEEE workshop on "*Network and Cloud Security*" July 2012
6. One week of "*Software Testing Workshop*" by Gujarat Technological University, 2012
7. One day workshop on "*Android Programming and Application Development*" 2011

Professional Services

Postdoc Advisory Council Member of Florida International University since October 2018

Coordinator of International and National level seminar, workshop and faculty development programs

Federal Judge Panel: McNair Scholar Research Conference 2017-18, U*&QBIC 2018

Program Committee: IEE ISI 2018, CSI Springer 2015, ICCSNIT 2016, EC 2017

Ph.D. Dissertation/Thesis Reviewed: DDIT – India (2016), GTU – India (2017) Bhartihar University – India (2018)

Journal Reviewing Activities: AJSEA, IJSRT, AIJ, ACM, SIAM, IEEE, SciencePG, ARJ, IJSRT, IJCSDF

Conference Reviewing Activities: IEEE ISI 2018, ACM ICISDM 2018, IEEE CSCloud 2017, CCS 2018, NDSS 2019

Professional Body Memberships: IEEE Computer Society, ACM, ISTE, CSTA, Internet of Society, IACSIT Singapore, IAENG, CSI, ASEE