

HACER VAROL

hacervarol@gmail.com

1522 Judson Oak Dr.

Conroe, TX, 77384

Phone: 936-827-5453

<https://cs.shsu.edu/about/h-varol.html>

EDUCATION

Doctor of Engineering

December 2018

Lamar University / Beaumont, TX

Department: Electrical Engineering

Dissertation Title: Performance Modeling of Licklider Transmission Protocol (LTP) via Proactive Transmission of Signaling Segments in Deep-Space Network

Advisor: Ruhai Wang

GPA: 4.00

Master of Science in Applied Science

May 2011

University of Arkansas at Little Rock / Little Rock, AR

Department: Engineering Science & Systems

Thesis Title: Breast Cancer Detection with using Communications Technology

Advisor: Nidhal Bouaynaya

GPA: 4.00

Bachelor of Science in Electrical and Electronics Engineering

June 2003

Firat University / Elazig, TURKEY

WORK EXPERIENCE

Lecturer

August 2011 – Present

Department of Computer Science

Sam Houston State University

Responsible for teaching:

COSC 1436 – Programming Fundamentals-I

(taught for CS and Electrical & Computer Engineering Technology students)

COSC 2327 – Introduction to Computer Networks

(taught for CS and Electrical & Computer Engineering Technology students)

COSC 4326 – Network Theory

System Operation and Facility Engineer

November 2005 – December 2009

Firat Electricity Distribution Company

Responsible for the detecting and applying necessary solution ideas for the operation of the power lines system.

Computer Aided Drafter

March 2003 - November 2005

Firat Elevator Inc. Company

Responsible for designing and modeling the elevators and their positions in the building.

Responsible for drawing the structure of the elevators.

RESEARCH INTERESTS

- Space Communication Networks
 - Mathematical Modeling of File Delivery Time
 - Security
- IoT Security in Space Network
- Computer Science/Engineering Education, and
- Health Informatics and Signal Processing

RESEARCH EXPERIENCE

- ***Performance Modeling of LTP in Space Network*** **January 2015 - Present**

Created performance model of Licklider Transmission Protocol in deep space communication network. The original model is enhanced via introducing burst of transfer and equal interval distribution of signaling segments along the Retransmission Time Out (RTO). Tests were carried out with 6 and 60 Mbytes of data with or without link break.

- ***Improving Retention Rates in Introductory Programming*** **January 2013 - Present**

First assessed the current situation of retention rates of students, especially women, in introductory level programming courses and then implemented new ways/solutions to improve it.

- ***Detecting Breast Cancer with Radar Technology*** **January 2009 – April 2012**

Tumor detection problem in breast images was formulated as a hypothesis testing problem, where the signal of interest was the tumor and the noise referred to the healthy tissue in the breast. In communication engineering, it is known that the optimal detector of a known signal in noise is the North filter. However, the tumor characteristics (size, shape, location, etc) vary between patients and stages of the disease. We show that, for an unknown signal of interest, the optimal filter is given by the Wiener filter to detect malignant breast cancer.

TAKEN GRADUATE COURSES

Networking and Security:

- ❖ Digital Communication
- ❖ Telecommunications and Networking
- ❖ Computer Network Design and Analysis
- ❖ Computer Network Simulation
- ❖ Network Security
- ❖ Digital Security

Signal Processing:

- ❖ Intro to Signal Processing
- ❖ Stochastic Signals and Systems
- ❖ Estimation Theory / Signal Process Communications
- ❖ Digital Signal Processing

Electrical Engineering:

- ❖ Power Systems Analysis
- ❖ Electromagnetic Waves and Antennas
- ❖ Detection Theory

PUBLICATIONS

[1] **Varol, H.**, Wang, R. "Performance Modeling of DTN Architecture in Disrupted Deep-Space Networks", Submitted to *IEEE Transactions on Vehicular Technology*

[2] **Varol, H.** "Differentiating Cyber Attacks in Deep-Space Networks", In preparation to *IEEE Transactions on Vehicular Technology*

[3] Balani, Z., **Varol, H.** "Cloud Computing Security Challenges and Threats", In Proceedings of *8th International Symposium on Digital Forensics and Security (ISDFS 2020)*, June 1-2, 2020, Beirut, Lebanon

[4] Abdalrahman, G. A., **Varol, H.** "Defending Cyber-Attacks on Internet of Things", In Proceedings of *7th International Symposium on Digital Forensics and Security (ISDFS 2019)*, June 10-12, 2019, Barcelos, Portugal

[5] **Varol, H.** "Using Graduate and Undergraduate Students to Assist in Introduction to Programming Course", *International Journal of Advances in Electronics and Computer Science*, Volume 4, Issues 8, August 2017, ISSN: 2394-2835

[6] **Varol, H.** "Evaluation of Introductory Programming Course for Non-Computer Science Majored Students", *18th International Conference on Transformations in Engineering Education (ICTEE 2016)*, July 21-22, 2016, Istanbul, Turkey

[7] **Varol, H.**, Wang, R., Chen, L., "Key Management in Space Communications", In proceedings of 3rd International Symposium on Digital Forensics and Security (ISDFS 2015), May 11-12, 2015, Ankara, Turkey

[8] **Varol, H.**, Varol, C., "Improving Female Student Retention in Computer Science during the First Programming Course", *International Journal of Information and Education Technology*, Volume 4, Issue 5, pp. 394-398. October 2014, DOI:10.7763/IJIET.2014.V4.437

[9] Silessi, S., Varol, C., **Varol, H.**, "Non-Computer Science Majored Women Students Perspective on a Pictorial Programming Environment", *International Journal of Education and Information Technologies*, Volume 7, Issue 2, May 2013, pp. 44 – 51, ISSN: 2074-1316

[10] Silessi, S., **Varol, H.**, Olamide, K., Key, D., Houck, B., Varol, C., (2013), Dragon Drop Pictorial Programming, In proceedings of 4th International Conference on Education and Educational Technologies (EET 13), pp. 51-56, Cambridge, MA, USA, January 31- February 1, 2013

[11] Varol, H., Bouaynaya, N., O'Neill, W., (2012), Breast Cancer Detection Using Communications Technology, In proceedings of 2012 International Conference on Industrial and Intelligent Information (ICI3 2012), pp. 63-68, Singapore, March 17 - 18, 2012

GRANTS

[1] Varol, H. (January 2021 – May 2021). "Developing a Student-Friendly Mobile Device Programming Editor to Increase Female Student Retention", 2021 STEM Center SoTL Mini-Grant Project.

Award Amount: \$2,000

CERTIFICATES and AWARDS

- * SHSU Online Teaching Certification (2020)
- * Graduate Scholarship Award, Lamar University (2012)
- * Applied Science M.K. Testerman Award (May 2011)
- * HARAMBEE Outstanding Graduate Student Award, UALR (2010)
- * HARAMBEE Outstanding Graduate Student Award, UALR (2009)
- * Participation Certificate to Intensive English Language Program at UALR (May 2007)
- * Participation Certificate to European Union and CE Seminar (March 2005)
- * Certificate of Statistical Process Control (May 2004)
- * Certificate of ISO 9001:2000 Quality Management Systems Internal Auditor Training (May 2004)
- * Certificate of ISO 9001:2000 Quality Management Systems Basic Course (March 2004)
- * Certificate of Autocad Proficiency (2003)

PROFESSIONAL MEMBERSHIPS and SERVICES

- Member of IEEE
- Member of Society of Women Engineers
- Conference Technical Committee Member, 10th International Conference on Educational and Information Technology (ICEIT 2021), January 18-20, 2021, Chengdu, China
- Conference Technical Committee Member, 9th International Conference on Educational and Information Technology (ICEIT 2020), February 11-13, 2020, Cambridge, UK
- Technical Committee Member, 7th International Symposium on Digital Forensic and Security (ISDFS 2019), June 10-12, 2019, Barcelos, Portugal
- Conference Technical Committee Member, 8th International Conference on Educational and Information Technology (ICEIT 2019), March 2-4, 2019, Cambridge, UK
- Conference Technical Committee Member, 7th International Conference on Educational and Information Technology (ICEIT 2018), March 7-9, 2018, Oxford, UK
- Conference Technical Committee Member, 6th International Conference on Educational and Information Technology (ICEIT 2017), March 7-10, 2017, Cambridge, UK
- Conference Technical Committee Member, 5th International Conference on Educational and Information Technology (ICEIT 2016), March 17-18, 2016, Paris, France

SERVICES to DEPARTMENT and UNIVERSITY

- Undergraduate Curriculum Committee Member (Spring 2019 - Present)
- Coordinator for COSC 1436 – Programming Fundamentals course (Spring 2019 - Present)
- Preparing COSC 1436 materials for CS ABET Accreditation and NSA/DHS CAE Designation
- Supervising multiple Honors students on mini projects
- Working with Tenure-Track faculty (as a CO-PI) for internal grant applications
- Introducing Java learning management systems, i.e. Zybooks to department
- Helping 2+2 program's Turkish students for their adaptation to the US education and lifestyle
- Notebook Judging, Southeast Texas Boosting Engineering Science and Technology Robotics Competition, October 26, 2013

COMPUTER KNOWLEDGE

- **Office Products:** MS Word, MS Excel, MS Frontpage, MS Powerpoint
- **Languages:** Java, C++, HTML
- **Package Programs:** AUTOCAD, MATLAB

ATTENDED SEMINARS

- * 14 (Fourteen) Blackboard Online Training Sessions, March 2020 - Present
- * CHSS Teaching Conference, SHSU, Huntsville, TX, August 22, 2013
- * CHSS Teaching Conference, SHSU, Huntsville, TX, August 23, 2012