Huanghao (Howard) Feng

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OBJECTIVE

To seek a challenging technical position that uses my programming skills and engineering trainings effectively in the areas of computer science, robotics, image processing, and software development.

EDUCATION

University of Denver – Denver, CO
GPA: 3.12

Ph.D., Electrical and Computer Engineering
to be completed March 2020

University of Denver – Denver, CO
GPA: 3.0

M.S., Electrical and Computer Engineering
Diploma: August 2014

Suzhou University of Science and Technology – China
GPA: 3.6

B.S., Electronic and Information Engineering
Conferred: July 2011

PROFESSIONAL EXPERIENCE

Research Assistant (Advisor: Prof. Mohammad.Mahoor)

- Using NAO robot to improve social behaviors (eye gaze attention) of children diagnosed with autism. Pre-program the therapy session on NAO and use it to interact with children with autism spectrum disorders.

- Implemented a facial expression recognition algorithm in NAO
  The algorithm was implemented using C# and OpenCV. Four facial expressions (joy, sadness, surprise and angry) have been tested using our algorithm with 80% recognition rate.

- Developed an automated method for emotion classification in children using electrodermal activity (EDA) signals. A continuous wavelet transform has been applied on the recorded EDA signals using the complex Morlet (C-Morlet) wavelet function.

- Assist a pilot study on comparing the facial expression recognition abilities of children with Autism Spectrum Disorder (ASD) with typically developing (TD) children using a rear-projected humanoid robot called Ryan.

- Co-programmer and main experiment executor for eye-gaze study using humanoid robot Zeno. Provides a novel framework for examining gaze as it is perceived—as an emergent feature—with sensitivity for capturing differences between individuals and groups. Also address an important gap in ASD literature, taking the first look at emergent gaze perception in this population.

- Developing a Robot based music therapy for children with autism improving social skills.

Software Developer (Suzhou University of Science and Technology)　　　　September 2010 – May 2011
- Developed a mobile application using Java in Android operation system.
- XML is used for user interface configuration
- The design won an Excellence Award in Senior Design

Technical Support, China Telecom – Suzhou Branch, Jiangsu, China　　　　June 2010 – August 2010
- Worked as technical support with a summer internship.

TECHNICAL HIGHLIGHT

- Good Programmer - extensive programming experiences in Python, Matlab, C, C#, OpenCV, Java and Assembly.
- Quick learner - able to understand innovative ideas and also to learn new technical skills in a relatively short time.
- Team player – good people skills and will take the first step to support other team members.
- Excellent teacher – able to explain difficult or abstract concepts in an understandable manner to the students. I have taught English, physics and computer programming to different educational levels of students.
- Public speaker – superb presentation skills in meetings and conferences.

HONORS AND AWARDS

2016 RSJ/KROS Distinguished Interdisciplinary Research Award	2016
2014 Boulder Badminton Tournament Men's Single Group A (Professional) Bronze	2014
Excellence team award, Jiangsu Provincial College Students Street Dancing Competition	2009
Excellent Award, Senior Design	2011
Excellent Student Leadership Award	2010
First Tier Scholarship	2010
Third Tier Scholarship	2008
Talent Star	2007

PUBLICATION

- Huanghao Feng, Hosein Golshan, Mohammad H. Mahoor, "A wavelet-based feature extraction approach for emotion classification using the EDA signals", Journal of Expert Systems and Applications, (2018)
- Farzaneh Askari, Haunghao Feng, Timothy D. Sweeny, Mohammad H. Mahoor, "A Pilot Study on Facial Expression Recognition Ability of Autistic Children Using Ryan, A Rear-Projected Humanoid Robot", The 27th IEEE-RAS International Conference on Humanoid Robots, NanJin-Tai'an, China (2018)
- Farzaneh Askari, Huanghao Feng, Mohammad H. Mahoor, Timothy Sweeny and Anibal Gutierrez, "How children with autism spectrum disorder recognize facial expressions displayed by a rear-projection humanoid robot", INSAR 2018 Annual Meeting (formerly IMFAR), Rotterdam, Netherlands, (2018)
- S.M.Mavadati, H.Feng, M.Salvador, S.Silver, A.Gutierrez, M.Mahoor, "Robot-Based Therapeutic Protocol for Training Children, with Autism", 25th International Symposium on Robot and Human Interactive Communication, IEEE RO-MAN, New York, NY (2016) (RSJ/KROS Distinguished Interdisciplinary Research Award)
- Mohammad H. Mahoor, S. Mohammad Mavadati, Huanghao Feng, Peyten Sanger, Sophia Silver, Anibal Gutierrez, "Using Robots as Therapeutic Agents to Teach Children with Autism Recognize Facial Expression", International Meeting for Autism Research (IMFAR), (2015)
- Mavadati, S Mohammad; Feng, Huanghao; Gutierrez, Anibal; Mahoor, Mohammad H, "Comparing the gaze responses of children with autism and typically developed individuals in human-robot interaction", Humanoid Robots (Humanoids), 2014 14th IEEE-RAS International Conference on Humanoid Robots, Madrid, Spain (2014)
- S.M.Mavadati, H.Feng, A.Gutierrez and M.Mahoor, "Modeling Eye Gaze of Children with Autism During a Robot-based Therapy Setting", Proceeding of IEEE Engineering in Medicine and Biology Society (EMBS), Chicago, IL (2014) (submitted)
- S.M.Mavadati, H.Feng, S.Silver, A.Gutierrez and M.Mahoor, "Children-Robot Interaction: Eye Gaze Analysis of Children with Autism during Social Interactions", International Meeting for Autism Research (IMFAR), Atlanta, GA (2014)
- Huanghao Feng, "Studying Eye Gaze of Children with Autism Spectrum Disorders in Interaction with a Social Robot", Thesis, (2014)
- Huanghao Feng, Anibal Gutierrez, Jun Zhang, Mohammad H Mahoor, "Can NAO robot improve eye-gaze attention of children with high functioning autism?", IEEE International Conference on Healthcare Information (ICHI) Philadelphia, PA (2013)

- Huanghao Feng and A.Gutierrez, "Using Social Robots to Improve Directed Eye Gaze of Children with Autism Spectrum Disorders", Presented in Texas Autism Research Conference (TARRC), San Marcos, TX (2013)
- Huanghao Feng, M.Mahoor, A.Gutierrez, Marry.Kustner and Jun Zhang, "Using Social Robots at Improving Eye Gaze Attention of Children with Autism Spectrum Disorders", Proceeding of IMFAR, Donostia, San Sebastian, Basque County, Spain (2013)

OTHER EXPERIENCE

- DU Club Badminton – Founder, President   September 2012, 2013 – Present
- Guitar Club – Band Lead and Talent Star award   September 2007 – Present
- Student Association – Entertainment Department   September 2008 – August 2010
  Director and Excellent Student Leadership Award

COURSE TAKEN

- Advanced Computer Vision (A), Computational Geometry (A), Database Mgmt (B+), Python for Data Analystics (A), Analog Electronics Technology (A), Digital Electronics Technology (A), Experiment in Electronics Technology (A), XMOS Embedded System (A), Advanced Logic Digital Design (B), Signals and Systems (B), Optoelectronic Technology (B), Digital System Design Technology Information Theory and Code (A), Electronic Design Automation (B), Principle & Application of Microcomputer (A), Technique and Application of ARM Processor (A), Assembly Language (A), The Principles of Embedded System (A), Artificial and Intelligent (B), Pattern Recognition (B), Advanced Engineering Mathematics, Robotics (A)

REFERENCES

- Prof. Mohammad H. Mahoor
  Assistant Professor, Dept. of Electrical and Computer Engineering, University of Denver
  303-871-3745
  mmahoor@du.edu

- Prof. Kimon P. Valavanis
  Professor, Chair of Dept. of Electrical and Computer Engineering, University of Denver
  303-871-2586
  kvalavan@cs.du.edu