Announcing the Final Examination of Amirtaha Taebi for the degree of Doctor of Philosophy

Time & Location: March 26, 2018 at 1:15 PM in Engineering 2 202 A
Title: Characterization, Classification, and Genesis of Seismocardiographic Signals

Seismocardiographic (SCG) signals are the cardiac vibration measured at the chest surface. These signals can contain useful information for diagnosing cardiac conditions. Accurate estimation of SCG features can help successful signal characterization and classification in health and disease. This may lead to new methods for diagnosing and monitoring heart function.

In this study, features of the SCG signals were extracted in time domain, frequency domain, and time-frequency domain. Different classifiers, including artificial neural networks, support vector machines, and random forest, were then used for automatic classification of the SCG signals.

SCG feature points were also identified based on the physiological characterization of SCG with other well-known signals including electrocardiography, phonocardiography, echocardiography, and Doppler ultrasound.

Major: Mechanical Engineering

Educational Career:
Bachelor's of Mechanical Engineering, BS, 2010, Sharif University of Technology
Master's of Bioengineering, MS, 2013, Politecnico di Milano

Committee in Charge:
Hansen Mansy, Chair, Mechanical and Aerospace Engineering
Alain Kassab, Mechanical and Aerospace Engineering
Azadeh Vosoughi, Electrical Engineering and Computer Science
Helen Huang, Mechanical and Aerospace Engineering

Approved for distribution by Hansen Mansy, Committee Chair, on March 8, 2018.

The public is welcome to attend.