KATHERINE ELLIS

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Education

M.S./Ph.D., Electrical and Computer Engineering, University of California, San Diego, San Diego, CA
Expected Graduation June 2015
Concentration in Intelligent Systems, Robotics and Control (Second year, GPA: 3.82)
Relevant Courses: Random Processes, Statistical Learning Theory, Artificial Intelligence: Learning, Digital Signal Processing, Convex Optimization, Unsupervised Learning, Computer Vision, Parameter Estimation I & II

B.S. Electrical Engineering, University of Southern California, Los Angeles, CA
May 2010 (Summa Cum Laude, GPA: 3.92)
Concentration in Controls and Robotics
Relevant Courses: Introduction to Artificial Intelligence, Introduction to Linear Systems, Linear Control Systems, Probability Theory for Engineers, Applied Linear Algebra for Engineering

Honors

UCSD ECE Departmental Fellowship ('10-'11)
USC Trustee Scholar (Full Tuition) ('06-'10)
USC Engineering Honors Program ('06-'10)
National Merit Scholar ('06)

Publications

K. Ellis, E. Coviello, and G. Lanckriet. "Semantic Annotation and Retrieval of Music Using a Bag of Systems Representation." ISMIR 2011. Miami, FL. October 24 - 28, 2011.

In preparation for submission to IEEE Transactions on Audio, Speech, and Language Processing: K. Ellis, E. Coviello, and G. Lanckriet. "A Bag of Systems Representation for Music Auto-tagging."

Research Experience

Transdisciplinary Research in Energetics and Cancer (Jul '11 – present)
PI: Jacqueline Kerr, Assistant Professor, Family & Preventive Medicine
Develop machine learning methods to predict physical activity type and intensity from sensor data

UCSD Computer Audition Lab (Sep '10 – present)
PI: Gert Lanckriet, UCSD Electrical and Computer Engineering
Machine Learning applied to automatic music tagging systems

Applications of Radar in Human Gait Analysis ('08 – '09)
PI: Hossein Hashemi, USC Electrical Engineering
Performed experiments on detecting human movement and biometrics with Ultra-wideband radar

Work Experience

Northrop Grumman Aerospace Systems: AEHF Payload Communication Systems Engineering Student Intern (Summer '10)
Assisted with systems engineering on payload of Advanced EHF Military communications satellite, ported tools from Matlab to Python, wrote wiki pages

Peer Tutor, USC Viterbi School of Engineering Academic Resource Center (Jan'10 –May '10)
Tutored student in Electrical Engineering, Mathematics, Physics, and Computer Science

Bonneville Power Administration, U.S. Dept. of Energy: Engineering Intern (Summer '07, '08, '09)
Worked in three subgroups: Substation Maintenance, Real-time Control systems, and Transmission Planning

Activities

Triathlon Club, UCSD (’10 - present)
Botball Club, UCSD (’10) – High School Robotics Club Tutor
Eta Kappa Nu: Electrical and Computer Engineering Honor Society, Recording Secretary (’09, ‘10)
Four Year Varsity Athlete, USC Cross-Country & Track (’06-’10)

- Willis O’ Hunter Award—Graduating Senior Athlete with highest GPA (’10)
- Dr. James E. Slosson Academic Excellence Award (’09)
- PAC-10 All-Academic Team (Cross-Country and Track, ‘07, ’08, ‘09)
- Walk-On Athlete of the Year Award (‘08)