

Weiwei Li

Education

- Ph.D. Student (2000 ~ Present), Dynamic Systems & Control, University of California San Diego, USA.
- M.S.(1997), Electrical Engineering, Beijing Institute of Control Engineering, China.
- B.S.(1994), Electrical Engineering, Xi'an University of Electronic Science & Technology, China.

Research Interests

Optimal control for biological movement system, Inverse optimal control, Hierarchical control, Linear control and system design, Computational analysis and optimization theory.

Working Experiences

- Research Assistant, University of California San Diego, 09/00 ~ Present.
Optimal control design for biological systems focused on human arm movement. Study estimation problems with performance and budget requirement.
- Software Engineer, IMAG Industries, Inc., Beijing, China, 11/99 ~ 05/00.
Worked on VoIP, Internet telephony, especially the effect of network dynamics on voice quality.
- Software Engineer, Beijing METSTAR Inc., China, 09/98 ~ 10/99.
Studied antenna pointing and movement control system for meteorological radar.
- Control Engineer & Research Assistant, Beijing Institute of Control Engineering, China, 07/94 ~ 08/98.
Designed adaptive filtering and estimation algorithms for re-entry spacecraft guidance system; Designed Fault-tolerant architecture and algorithms for satellite navigation; Designed adaptive PID control for spacecraft.

Teaching Experiences

- Fall 2002: Teaching Assistant, Introduction to C++ Programming, Cognitive Science Department.
- Winter 2003: Teaching Assistant, Linear Circuits, Mechanical and Aerospace Engineering Department.

Publications & Preprints

1. Weiwei Li and Robert E. Skelton, "State Estimation with Finite Signal-to-Noise Models", *The 42nd IEEE Conference on Decision and Control*, pp. 5378-5383, Hawaii, 2003.
2. Emanuel Todorov and Weiwei Li, "Optimal Control Methods Suitable for Biomechanical Systems", *The 25th IEEE Conference on Engineering in Medicine and Biology Society*, Mexico, September 2003.
3. Weiwei Li and Emanuel Todorov, "Iterative Linear Quadratic Regulator Design for Nonlinear Biological Movement Systems", submitted to *1st International Conference on Informatics in Control, Automation & Robotics*.
4. Weiwei Li, Emanuel Todorov and Robert E. Skelton, "Estimation and Control of Systems with Multiplicative Noises via Linear Matrix Inequalities", submitted to *The 43rd IEEE Conference on Decision and Control*.
5. Emanuel Todorov and Weiwei Li, "A Generalized iterative LQG Method for Locally-optimal feedback control of constrained nonlinear stochastic system", submitted to *The 43rd IEEE Conference on Decision and Control*.

Awards

- Superior Teaching Assistant, Cognitive Science Department, University of California San Diego, Fall 2002.
- Fellowship of Chinese Academy of Space Technology, 1994/1995.
- Excellent Graduating Student of Ministry of Electronics Industry in China, 1994.
- Scholarship of Xi'an University of Electronic Science & Technology, 1992~1993, 1990~1991.

Skills

- Windows, Linux, Sun Solaris; MATLAB, C/C++, Assembly languages, FORTRAN, BASIC.
- Numerical linear algebra, numerical optimization methods, optimal control and nonlinear control methods.