

Lawrence J. Tognetti

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Objective

Research position concentrating in development & design, prototype fabrication, and experimental testing of electromechanical and fluid power motion control systems.

Education

Georgia Institute of Technology, Atlanta, GA – 5/05

Ph.D., Mechanical Engineering, GPA: 3.94 / 4.0

Thesis: Improved Design and Performance of Haptic Two-Port Networks

Through Force Feedback and Passive Actuators

Advisor: Dr. Wayne Book

Georgia Institute of Technology, Atlanta, GA – 8/99

M.S., Mechanical Engineering, GPA: 3.91 / 4.0

Thesis: Actuator Design for a Passive Haptic Display

Advisor: Dr. Wayne Book

University of the Pacific, Stockton, CA – 5/96

B.S., Mechanical Engineering, Cumulative GPA: 3.91 / 4.0 Engineering GPA -- 4.00 / 4.00

Work Experience

Research Engineer -- Georgia Institute of Technology, Atlanta, GA

3/05 – Present Assist with construction and documentation of laboratory systems to be used for education and research in mechatronics and robotics.

Graduate Teaching Assistant -- Georgia Institute of Technology, Atlanta, GA

9/03 – 12/04 Teaching assistant for graduate and undergraduate laboratory classes, specifically Experimental Engineering, Advanced Control System Design & Implementation, and Motion Control. Responsibilities include overseeing laboratory work and setting up motion control systems comprised of hydraulic, electromechanical, electrical sensor, and computer components.

IMDL Graduate Research Assistant -- Georgia Institute of Technology, Atlanta, GA

8/01 – 9/03 Research Haptic Robotics for the Intelligent Machine Dynamics Laboratory under the advisement of Dr. Wayne Book. Activities included design and implementation of hardware and control improvements for an existing passive haptic test bed, research in the area of passive control of active haptic systems, and investigation in the use of hybrid active / passive actuators for improved haptic stability and performance.

Graduate Teaching Assistant -- Georgia Institute of Technology, Atlanta, GA

1/00 – 8/01 Head teaching assistant for Experimental Methodology, a junior level laboratory class. Responsibilities included setting up experiments, overseeing general operation of laboratory logistics, and grading lab reports.

RPMI Graduate Research Assistant -- Georgia Institute of Technology, Atlanta, GA

9/96 - 8/97 Investigated the use of rapid prototyping technologies in injection mold design for the Rapid Prototyping and Manufacturing Institute (RPMI) lab. Responsibilities included designing tools with CAD, building tools through use of traditional machining and rapid prototyping processes, and testing of the final tools. Tested tool durability, final part quality, evaluation of process parameters, and application of fundamental tool design methods in rapid tooling.

New United Motors Manufacturing (Quality Assurance Engineering), Fremont, CA.

7/95 - 12/95 Investigated field problems and analyzed warranty returned parts to provide root causes and countermeasures for problems affecting quality of NUMMI built vehicles. Worked with assembly, quality control, and Toyota design engineers to implement changes in manufacturing processes and vehicle design.

Indy Electronics, Manteca, CA.

2/94 - 7/94 Served as a manufacturing support and project engineer. Designed and evaluated improvements of tooling in quality control and production for improved product quality, assembly throughput, decrease in manufacturing waste, and improved operator ergonomics. Determined and documented the cost effectiveness of these proposed and implemented improvements.

Skills

Software Used

Matlab, Simulink, Mathcad, Autocad, LabView, Realtime LabView, ProE, Solid Works, Working Model, Wincon, XPC Target, and other various word-processing, spreadsheet and analysis programs.

Hardware / Equipment Used

I/O Cards & Processors: National Instruments, Keithley Metrabyte, dSpace, Servo To Go, and Quanser
Machining & Manufacturing: Injection Molding, Mills, Lathes, EDM, etc.
Rapid Prototyping: Stereolithography (SLA 250), Actua, and FDM

Miscellaneous

WMA Wilderness First Aid Certified, NCRC (National Cave Rescue Commission) Level One certified.

Organization / Volunteer Work (past and present)

Professional

American Society of Mechanical Engineers (ASME) Tau Beta Pi Engineering Honor Society
Society of Automotive Engineers (SAE) Phi Kappa Phi Honor Society

Other

Outdoor Recreation Georgia Tech (ORGT)

- Rock Climbing Senior Trip Leader
- Caving Vertical Instructor

Dogwood City Grotto (DCG)

- Vice Chair, January '03 – December '04

Southeastern Climbers' Coalition (SCC)

- Boat Rock "Float the Boat" Benefit Dinner Committee - '03
- Fixed anchor maintenance coordinator

Publications:

Professional

Cicero, Gurocak, Hughes, Stark, Tognetti, and Watson. "Design of a Stereo Robot Head: an Interdisciplinary Research Project" *Council on Undergraduate Research Quarterly*, Sept 1997: pp 9-11.

Munir, Saghir, Lawrence Tognetti, and Wayne J. Book. "Experimental Evaluation of a New Braking System for Use in Passive Haptic Displays". San Diego: *American Controls Conference*, 1999.

Other

Tognetti, Lawrence. "Painless Wiring, Installing The Accessory Fuse Block On An F250" *Power Stroke Registry*, Summer 2002: pp 90-92.

Tognetti, Lawrence. "Upgrading to Ford's Telescoping Trailer Tow Mirrors" *Power Stroke Registry*, Spring 2003: pp 72-75.