

ROBERT HOLMBERG, Ph.D.

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OBJECTIVE

Mechanical design team leader/designer position in the robotics/automation industry in which a broad cross-discipline knowledge of control theory and electronics is required.

EXPERIENCE

Director of Mechanical Development, Wireless LAN, 3Com Corp., 1/2001 – 4/2003

The 3Com Wireless LAN group produces IEEE 802.11 networking products for enterprise and small business.

- Responsible for all mechanical engineering tasks from concept, through design and project management, to final documentation.
- Specific duties include conceptual and Industrial Design, part design for plastic injection molding, assembly design for manufacturability, system design for modularity, thermal analysis, drafting technically complete drawings, managing the mechanical IP, failure analysis, managing external consultants, and project costing and scheduling.

Director of Engineering, Nomadic Technologies Inc., 10/1999 – 12/2000

Nomadic Technologies Inc. was the leading producer of mobile robot systems for research world-wide. Nomadic also developed and produced wireless networking devices that bridged radio, serial, and Ethernet network interfaces, and was an OEM supplier to companies including Symbol, Lucent, Enterasys, and Mettler-Toledo. Nomadic was purchased by 3Com for the wireless networking portion of the business.

- Responsibilities included participation in strategic planning; directing project planning, scheduling and reviews; handling customer support and sales inquiries; leading weekly engineering staff meetings; developing, writing, and editing detailed assembly and test procedures for internal use; writing and editing customer product manuals; and providing continued mechanical engineering duties.

Mechanical Engineer, Nomadic Technologies Inc., 6/1997 – 9/1999

- Designed the patented drive mechanism for the Nomad XR4000, a 350 lb. Autonomous omni-directional mobile robot with 1 m/s and 1 rev/s speed capabilities.
- Principal mechanical designer, as well as team member on other aspects, including electrical, and software, of the design and development of the Nomad XR4000, Nomad Scout mobile robots, and development of the mobile manipulation systems that integrated the XR4000 with commercially available 6-DOF PUMA 560 or the 7-DOF Mitsubishi PA-10 robot arms.
- Designed a 19 lb., 12 in.-tall retractable forklift “manipulator” with 25 lb. payload, 40 in. of vertical travel, and 8 in. of grip between the moveable forks.

Research Assistant, Stanford University, Computer Science Robotics Laboratory

- Designed and built prototype robot mechanisms and mobile manipulation systems. Thesis research involved the design, dynamic modeling, and dynamic control of the Nomad XR4000 mobile robot and XR4000/PUMA 560 mobile manipulator system.

EDUCATION

Ph.D., Mechanical Engineering, Stanford University

M.S., Mechanical Engineering, Stanford University

B.S., Mechanical Engineering, University of Pittsburgh, magna cum laude