

Objective

Internship in the area of Artificial Intelligence, Human-Computer interaction, Control theory preferably in machine learning, intelligent agents and logic programming.

Education **Graduate**

Master of Science (Jan 2005 - present)
Department of Electrical & Computer Engineering,
University of Virginia

Undergraduate

Bachelor of Technology (Aug 1999 - Jun 2003)
Department of Instrumentation Engineering,
Anna University, India
GPA: 8.8/10 (First Class with Distinction)
University Rank: 3

Research

Areas of interest

Artificial Intelligence, Human-Computer Interaction and Control Systems.

Publications

- ✍ **"Fuzzy Based Robust Controller Design for Robotic Two-Link Manipulator";** N.Selvaganesan, Prabhu Jude Rajendran, Dr.S.Renganathan; presented in the International Conference on Artificial Intelligence in Engineering and Technology(ICAJET), Malaysia 2004
- ✍ **"Online Tuning of PID Controller for Time-Variant Systems Using Genetic Algorithm";** N.Selvaganesan, Prabhu Jude Rajendran, Dr.S.Renganathan; presented in the International Conference on Artificial Intelligence in Engineering and Technology (ICAJET), Malaysia 2004
- ✍ **"A Novel Method of Ratio Control without using Flow meters";** Prabhu Jude Rajendran, L.Sridevi, Dr.P.Kanagasabapathy; published in the Journal of Instrument Society of India (ISOI) Vol 34, June 2004
- ✍ **"PC Based Position-Control of Multiple Robot Arms";** Prabhu Jude Rajendran, N.Selvaganesan, Dr.S.Renganathan; under review in the Journal of Institute of Electronics and Telecommunication Engineers (IETE)
- ✍ **"Design and Simulation of Fuzzy Logic Control System for Robotic Two-Link Manipulators";** N.Selvaganesan, Prabhu Jude Rajendran, Dr.S.Renganathan, S.Magesh; under review in the Journal of Instrument Society of India (ISOI)

Relevant Coursework

Graduate

Introduction to Cognitive Systems Engineering
Digital Control Systems
Animation (audit)
Theory of Computation (audit)

Undergraduate

Artificial Intelligence
Neural and Fuzzy Logic Control
Computer Process Control
Control Engineering
Process Control
Logic and Distributed Control System
Transducers Engineering

Projects

Graduate

“Gait Monitoring Device”

This device helps in the analysis of the gait characteristics of elderly people. Falls and consequent injuries are a real danger for the elderly population. In some cases, such incidents can even result in death. It has been shown that the general walking patterns of an individual can serve as a health status indicator. Using a gait monitoring device, the changes in gait patterns would be detected, and thus creating an opportunity for early intervention and possibly the prevention of injury as the result of declining condition from disease or natural aging process. In an effort to reduce the risk of falls and resultant debilitating injuries, detect gait changes early and increase quality of life issues for the elders, a passive Gait Monitoring Device as a part of an in-home monitoring system is developed by Medical Automation Research Center (MARC), at the University of Virginia.

Undergraduate

“PC Based Parallel Control of Robot Arms”

Parallel control of robot arms is significant in applications that demand the use of more than a single arm at the same time. Three robots were used to demonstrate parallel control and hence, accomplish a final job, which in our case was opening the cap from a pen and placing the pen in a different location. Three arms were used in one robot and one in the other two. Since the robots were in disarray both mechanically and electronically and the instruction manual was not available, figuring out the associated problems and realigning them before controlling the arms was a challenging task. We finally rebuilt the robot and controlled a total of 5 arms in the 3 robots to do the final job.

“Ratio Controller without flow meters”

Design of a ratio controller obviating the use of expensive flow meters by using cost effective sensors and electronics without a sacrifice of accuracy. The flow was measured in terms of the height of liquid column by relating it to the flow velocity and hence, the flow transducer was replaced with a comparatively cheaper level transducer. Further enhancements to this proto type could be considering the effects of viscosity and density of the fluids. This proto type could also be extended as an air-fuel ratio controller in which the flow transmitters are replaced by pressure transmitters and relationship between the pressure and flow rate of gases is known.

Work Experience

Current Employment

Graduate Assistant, Gait Monitoring System,
Medical Automation Research Laboratory (MARC), University of Virginia (from Feb 2005)

Previous Employment

Software Engineer, Infosys Technologies Ltd, India (June 2003 – December 2004)

Projects

- ✍ Maintenance of Dispatching and Service Scheduling Systems for Burlington Northern Santa Fe (BNSF) Railway, USA, worked on Natural, Cobol, DB2 (April – Dec 2004)
- ✍ Management Control System Design and Development for Kansas City Railroad Corporation, USA, worked on Visual Basic, Cobol, DB2, MQ-Series (September 2003-March 2004)
- ✍ Foundation Level Training (June-August 2003)
 - Generic Stream - Trained in Computer Hardware and System Software Concepts, Programming Fundamentals, Relational Database Management System, Analysis of Algorithms, Object Oriented Concepts, User Interface Design, Software Development Methodology
 - Mainframe Stream - Trained in Multiple Virtual Storage, Job Control Language, COBOL 85, Customer Information Control System, DB2

Computer Skills

Simulation Softwares : MATLAB, Intouch, Lab View Simulation Software
Programming Languages : C, Visual Basic, Natural and Cobol 85
Database : DB2, MS Access
Mainframe Technologies : MVS, JCL, CICS
Operating Systems : Windows 9x, MVS

Other Details

- Visa Status : F1, Country of Citizenship : India.

References

Available on request