

Education

M.Sc. Computer Science, Colorado State University, 2010

B.Sc. Computer Science, Mesa State College, 2005, Magna Cum Laude

Master's Thesis

Visual Location Awareness for Mobile Robots using Feature-Based Vision

Advisor: Bruce A. Draper Colorado State University

An evaluation of bag-of-features-based visual recognition paradigm for the task of mobile robot localization. Although many works describe visual robot localization, they often do so with customized vision systems, using auxiliary sensors, or complex methods for map-building and position estimation, which makes the comparison of vision systems with respect to the task of robot localization difficult. This work presents an experience-based vision-only localization algorithm which employs simple and well-known models for position estimation that make it suitable for use with any bag-of-features general-purpose vision system and allow performance comparison of such systems with respect to robot localization tasks. Another contribution of this work is the evaluation of a specific bag-of-features vision system SeeAsYou for the task of robot localization.

Appointments

Software Developer Intern Summer 2008

Wall Street On Demand Boulder, CO

Development and testing of an artificial neural network based data feed analysis software. Wall Street On Demand is one of the largest data and visualization providers for financial markets.

Graduate Systems Assistant 2007–2010

Colorado State University Fort Collins, CO

Support of Computer Science Department's network. Software installation and maintenance, administrative scripting, troubleshooting, system upgrades in a Linux, Solaris, Mac OS X, and Windows environment.

Teaching Assistant Fall 2006

Network and System Administration Colorado State University

Introduction to UNIX-based systems' administration including scripting, software installation, management of network and operating system services, policies for upgrades, security, backups. Explaining programming, systems, and networking concepts, suggesting possible lab exercises, writing instructions for lab exercises, grading assignments and quizzes.

Computer Programmer 2004–2005

Flow Data, Inc. Grand Junction, CO

Research and development of a vision-based pipeline inspection tool. Determining mechanical, electronic, hardware, and software requirements; software development, system assembly, and testing.